COUNCIL ON HIGHER EDUCATION

Higher Education Qualifications Sub-Framework

Qualification Standard

for

Bachelor of Pharmacy

The process of drafting this standard is described in the Introduction.

February 2022

The Council on Higher Education (CHE) is an independent statutory body established by the Higher Education Act, no. 101 of 1997 (amended). The CHE is the Quality Council for Higher Education, advises the Minister of Higher Education and Training on all higher education issues and is responsible for quality assurance and promotion through the Higher Education Quality Committee.

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HIGHER EDUCATION QUALIFICATIONS SUB-FRAMEWORK

STANDARDS DEVELOPMENT: POLICY AND PROCESS

Introduction

National policy and legislative context

In terms of the National Qualifications Framework (NQF) Act, 67 of 2008, the Council on Higher Education (CHE) is the Quality Council (QC) for Higher Education. The CHE is responsible for the quality assurance of higher education qualifications.

Part of the implementation of the Higher Education Qualifications Sub-Framework (HEQSF) is the development of qualification standards. Standards development is aligned with the *nested approach* incorporated in the HEQSF. In this approach, the outer layer providing the context for qualification standards are the NQF level descriptors developed by the South African Qualifications Authority (SAQA) in agreement with the relevant QC. One of the functions of the QC (in the case of higher education, the CHE) is to ensure that the NQF level descriptors 'remain current and appropriate'[1]. The development of qualification standards for higher education, therefore, needs to take the NQF level descriptors, as the outer layer in the *nested approach*, into account. An ancillary function is to ensure that they 'remain current and appropriate' in respect of qualifications awarded by higher education institutions. This means that they need to be responsive to the distinctive features of each field of study.

A secondary layer for the context in which qualification standards are developed is the HEQSF. This framework specifies the types of qualifications that may be awarded and, in some cases, the allowable variants of the qualification type. An example of variants is the provision for two variants of the Master's degree (including the 'professional' variant). Another example is the distinction in the Bachelor's degree type, between the 'general' and 'professionally-oriented' variants. The HEQSF also specifies the purpose and characteristics of each qualification type. However, as indicated in the *Framework for Qualification Standards in Higher Education* (CHE, 2013), neither NQF level descriptors nor the HEQSF is intended fully to address, or indeed capable of addressing, the relationship between generic qualification-type purpose and the specific characteristics of that qualification type in a particular field of study. One of the tasks of standards development is to reconcile the broad, generic description of a qualification type according to the HEQSF and the particular characteristics of qualifications awarded in diverse fields of study and disciplines, as defined by various descriptors and qualifiers.

Framework for standards development

Development of qualification standards is guided by the principles, protocols, and methodology outlined in the *Framework*, approved by the Council in March 2013. The focus of a standards statement is the relationship between the purpose of the qualification, the

[1] NQF Act 67 of 2008

attributes of a graduate that manifest the purpose, and the contexts and conditions for the assessment of those attributes. A standard establishes a threshold. However, on the grounds that a standard also plays a developmental role, the statement may include, as appropriate, elaboration of terms specific to the statement, guidelines for the achievement of the graduate attributes, and recommendations for above-threshold practice.

A qualification standard is a statement that indicates how the purpose of the qualification, and the level on the NQF at which it is awarded, are represented in the learning domains, assessment contexts, and graduate attributes that are typical for the award of the qualification. Qualification standards are not the same, in either scope or effect, like other modalities used for the establishment of standards in higher education, for example, resource allocation standards, teaching and learning standards, or standards used for the grading of individual students. Matters such as actual curriculum design, tuition standards, and standards for resource allocation for a programme are the responsibility of the institution awarding the qualification. Nor does the standard prescribe the duration of study for the qualification. It establishes the level on the NQF on which it is awarded and confirms the minimum number of credits as set by the HEQSF. The standard relates to all programmes leading to the qualification, irrespective of the mode of delivery, the curriculum structure, and whether or not a prior qualification at a lower or the same level on the NQF is a prerequisite.

The process of development

The aim of the standards development process is to explore the extent to which the principles, procedures, content, and methodology of standards development meet the requirements of all relevant parties: the institutions awarding the qualifications, the CHE as quality assurer of the qualifications, the graduates of those qualifications; their prospective employers; and any relevant professional council or association. The standard is, therefore, cognisant of academic as well as professional interests, insofar as the latter apply.

The drafting of this standards statement is the work of a group of academic experts in the field of study, convened by the CHE. Members of the Standards Development Working Group participate in their individual capacity, not as representatives of any institutions or organisations. Members of the Group are listed in Annexure B.

The Group met on several occasions during the period 2019-2021, and the standard statement has been through a number of iterations and revisions. A draft version was disseminated to the higher education institutions and the Pharmacy Council for narrow consultation. A revised draft version was later disseminated for broader public comment between December 2021 and January 2022. The comments and recommendations received were considered by the Reference Group and the standard was revised accordingly. The standard is therefore cognisant of both academic and professional interests. This standard statement was formally approval by the Higher Education Quality Committee (HEQC) of the Council on Higher Education in February 2022.

QUALIFICATION TITLE

Bachelor of Pharmacy

QUALIFICATION TYPE AND VARIANT

Bachelor's degree *(Professional)*

BACHELOR'S DEGREE: GENERAL CHARACTERISTICS

There are two types of Bachelor's Degrees, namely general and professionally-oriented Bachelor's Degrees. Both types of degree may be structured as a 360-credit qualification with an exit at level 7 or as a 480-credit qualification with an exit at level 8 on the National Qualifications Framework[2].

The 480-credit Bachelor's Degree at NQF level 8 has both a higher volume of learning and greater cognitive demand than the 360-credit degree at level 7 and should prepare students to be able to undertake Master's level study by providing them with research capacity in the methodology and research techniques of the discipline.

The primary purpose of both the general and the professional Bachelor's Degree is to provide a well-rounded, broad education that equips graduates with the knowledge base, theory, and methodology of disciplines and fields of study, and to enable them to demonstrate initiative and responsibility in an academic or professional context. Both the 360- and 480-credit Bachelor's Degrees may require students to undertake research in a manner that is appropriate to the discipline or field of study in order to prepare them for postgraduate study.

The general Bachelor's Degree emphasises general principles and theories as preparation for entry into general employment or for a postgraduate programme. The professional Bachelor's Degree prepares students for professional training, post-graduate studies, or professional practice in a wide range of careers. Therefore, it emphasises general principles and theory in conjunction with procedural knowledge in order to provide students with a thorough grounding in the knowledge, theory, principles, and skills of the profession or career concerned and the ability to apply these to professional or career contexts. The degree programme may contain a component of work-integrated learning.

(*Higher Education Qualifications Sub-Framework*, CHE, 2013)

[2] See below, NQF level and credits

STANDARD FOR BACHELOR OF PHARMACY

PREAMBLE

Recognizing historical challenges such as inequitable access to adequate healthcare in South Africa, pharmacy – as a key component of the health system – encompasses discovery, development, and manufacture of quality-assured, safe, and effective medicines as well as the supply, management, and rational use of safe and effective medicines to ensure that the healthcare needs of society are met. Pharmacists are the medicines experts within the multi-disciplinary healthcare system and are providers of information related to medicines and holistic health and pharmaceutical services.

To fulfil this role, highly educated pharmacy graduates with sound foundational and applied knowledge are required. Pharmacy graduates need to be responsive to the dynamic, evolving, and distinctively South African practice environment and be able to recognise and respond to the impact of economic, technological, social, and demographic influences on local, national, and international pharmacy practice. Graduates need to be cognisant of the impact on the environment of pharmaceutical manufacture and use.

The Bachelor of Pharmacy qualification, of necessity, must be broad-based and flexible to ensure that highly educated, competent, adaptable, and innovative entry-level pharmacy graduates are produced, with the relevant knowledge, attitudes, and skills to address the challenges of healthcare in South Africa and globally.

Graduates with a Bachelor of Pharmacy degree have a strong foundation in the pharmaceutical sciences and the potential to practice as pharmacists in diverse sectors of the pharmacy profession, and the foundation to further differentiate, adapt and specialise to meet the diverse healthcare needs of society.

Successful completion of the qualification is a requirement to enter the profession as an intern pharmacist, registered with the South African Pharmacy Council (SAPC), and ultimately, as a pharmacist on completion of the necessary requirements as stipulated by SAPC.

PURPOSE

The purpose of the professionally-oriented Bachelor of Pharmacy degree is to provide science-based education and training to equip pharmacists with the necessary knowledge, specific skills, and relevant competencies to render a comprehensive pharmaceutical service relevant to time and environment. This is achieved through a sound foundation in basic cognate sciences on which applied pharmaceutical sciences are progressively built. Knowledge and skill acquisition will progress to attributes that will culminate in the development of competencies required of an entry-level pharmacist. This prepares graduates to assume diverse responsibilities as informed, caring, and ethical pharmacists in the dynamic South African health care environment and remain relevant to the profession as practiced globally.

Graduates are prepared to serve in an inter-professional environment displaying professional conduct responsive to the socio-economic environment that influences the practice of pharmacy through engaged scholarship, advocacy, and effective communication. Graduates are equipped with the ability to keep pace throughout their careers with developments in pharmacy and therapeutics by being efficient self-directed learners engaged in continuing professional development. The degree prepares graduates for a multidisciplinary role and function of the pharmacist as well as for diverse career opportunities. It further provides the level of education to create, transmit and apply knowledge based on evidence, continue with postgraduate studies, and/or specialise in pharmaceutical health sciences.

Completion of the degree provides the minimum requirement to prepare for registration as a pharmacist following successful completion of the internship.

NQF LEVEL AND CREDITS

The exit level of the qualification is **NQF level 8**. The minimum number of credits allocated to the qualification is 480 credits and includes work-integrated learning throughout the programme. A minimum of 120 credits must be awarded at the exit level (NQF level 8).[3]

STANDARD FOR THE AWARD OF THE QUALIFICATION

The qualification may be awarded when the qualification standard has been met or exceeded. The *purpose* and *level* of the qualification will have been achieved when the following attributes are evident.

A Bachelor of Pharmacy graduate displays the NQF level 8 holistic knowledge of core areas and generic attributes including critical and analytical thinking, problem-solving, transfer of knowledge and skills from familiar to unfamiliar contexts, ability to work in groups, interpersonal skills, and awareness of the need for lifelong learning, time management, and self-management.

[3] Note that the Standard does not specify the duration of a programme leading to the qualification; that is determined by the institution offering the programme.

Core Knowledge

Upon completion of a Bachelor of Pharmacy degree, the graduate demonstrates knowledge of the following, including an understanding of the theories, research methodologies, methods, and techniques relevant to the practice of pharmacy:

1. Foundational knowledge of:
   (i) cognate sciences including but not limited to chemistry, microbiology, biochemistry, mathematics and statistics, physics, anatomy, physiology, pathophysiology, and social and behavioural sciences, including biomedical ethics;
   (ii) pharmacognosy and indigenous knowledge systems as they pertain to pharmacy practice in the South African context.

2. Advanced knowledge of core pharmaceutical and clinical sciences, including pharmacology, pharmaceutics, pharmaceutical chemistry, pharmacy practice, and clinical pharmacy at an NQF level 8.

Application of knowledge and skills

The graduate demonstrates an ability to apply integrated knowledge of the foundational, core pharmaceutical and clinical sciences to address complex and unfamiliar problems encountered in the practice of pharmacy. This includes demonstrating:

1. Pharmaceutical knowledge literacy includes the ability to interrogate, evaluate, create, transmit and apply knowledge based on current research in the pharmaceutical, and relevant clinical and social sciences.
2. Application of knowledge of the safe and rational use of medicines, complementary medicines, traditional medicines and medical devices, good clinical practice (clinical trials), and the ability to undertake patient education, consultation, counselling, medicine review and management, therapeutic outcome monitoring, pharmacist-initiated therapy, and pharmacovigilance.
3. The ability to access, collect and critically evaluate evidence to support safe, rational, and cost-effective use of medicines, and the capacity to provide evidence-based medicines information to healthcare professionals and patients.
4. Selection and application of appropriate current and relevant technology, standards, procedures, modern analytical, diagnostic, and pharmaceutical tools, processes, and research-based knowledge to the practice of pharmacy.
5. Application of knowledge, as related to pharmacy, for effective integration of organisation and management skills in terms of human resources and financial management, pharmaceutical infrastructure management, quality assurance, project management, quality management systems, business/entrepreneurship management, change management, and pharmaceutical policy development.

6. Competence in the promotion of health and wellness, production and dissemination of medicines-, drug safety- and substance abuse information, professional and health advocacy, health economics, epidemic and health disaster management, and primary healthcare by offering creative insights, rigorous interpretation, and solutions to problems and issues appropriate to the practice of pharmacy.
7. The application and integration of knowledge, according to GxP[4], in the discovery, development, and supply of medicines and medical devices, including production, registration, wholesaling and distribution, supply chain management, formulary development, compounding, dispensing disposal, and destruction of pharmaceutical and medical waste.
8. Competence to provide people-centred care, practice professionally, ethically, and within the law.
9. An understanding of the impact of global, economic, environmental, industrial/technological changes, and societal factors on the local context and system(s) in which pharmacy is practiced.
10. Capacity to develop and provide appropriate health care education to health care professionals and patients as and when necessary.
11. An ability to undertake research to analyse and address complex and abstract problems to improve healthcare.

The graduate is also able to:

12. Perform all the duties within the scope of practice of a pharmacist accurately and precisely.
13. Think critically and apply reasoning informed by acquired knowledge, professional ethics, and values to assess and address societal, health, safety, legal and cultural issues relevant to pharmacy.
14. Demonstrate an understanding of how to lead[5] work productively, whether independently or within an interprofessional team based on an understanding of the roles and relationships between the members of the professional team in diverse environments.
15. Communicate concepts, arguments, information, and solutions to problems in a manner appropriate to the pharmacy practice context and the recipients of the communication, taking into account professional, social, and cultural factors.

[4] GxP is a general abbreviation for the 'good practice' quality guidelines, regulations, and rules, and includes Good Manufacturing Practice, Good Wholesale Practice, Good Pharmacy Practice, Good Laboratory Practice, Good Clinical Practice, etc.

[5] Lead' refers to the management function of guiding, directing, and influencing others. Leading involves, among other things, the concepts of delegating, motivating, coaching, supervising, mentoring, and tutoring.

16. Demonstrate an ability to critically reflect on learning needs and apply learning strategies to address continuing professional development of self and others effectively.

17. Demonstrate an ability to take responsibility for her/his own work, use of resources, and making decision-making in diverse pharmacy contexts, as well as accountability for the discussions and actions of a team.

18. Demonstrate business acumen and application of entrepreneurial skills to the innovative practice of pharmacy.

CONTEXTS AND CONDITIONS FOR ASSESSMENT

Appropriate assessment of graduate attributes is informed by the following assumptions (i – viii refer to the relevant sections in 'Guidelines' below):

i. The BPharm degree is delivered and assessed in an environment that places the study in a professional and academic context.

ii. An incremental approach to assessment from the first to the fourth year of study is adopted, to ensure integration of theory and practice in increasingly complex and applied ways, moving students progressively toward greater understanding and independence in the learning process.

iii. Various assessment strategies, including formative and summative assessment, in academic and practice settings are used and occur regularly throughout the course of study.

iv. Assessment is constructively aligned[ii] with learning outcomes, and teaching and learning activities, so as to ensure that graduate attributes can be achieved.

v. Regular and constructive feedback is provided to enable graduates to achieve critical-thinking problem-solving, research, literacy, and communication skills for the attainment of the qualification.

vi. Adequate resources are available to implement effective teaching, learning, and assessment activities, which, in order to achieve the particular purpose of the qualification, include:

   a. an adequate relevant context-relevant student: staff ratio[iii]
   b. adequately equipped infrastructural resources[iv]
   c. adequate access to resources such as library and e-resources in order to meet the problem-solving and research attributes of the qualification.
   d. IT resources sufficient to enable graduates to achieve the purposes of the qualification.

vii. Assessment is conducted by a diverse range of appropriately qualified[v] staff from relevant disciplines and includes:

   a. sufficient numbers of academic pharmacists in the core pharmaceutical sciences
   b. other academics who understand the relevance of their discipline to a pharmacy and deliver their area of expertise in a pharmaceutical context
   c. academics who are sufficiently experienced to teach, supervise, and assess research
   d. sufficient numbers of suitably trained pharmacists to act as preceptors[vi] in work-based practice settings
   e. technical, administrative, and support staff
   f. other professionals[vii] where relevant.

viii. Quality of assessment, including validity, reliability, and consistency is facilitated by appointment and retention of a stable complement of staff in permanent employment.

ix. Work-integrated learning[viii] is a fundamental aspect of the whole qualification and the achievement of graduate attributes. Therefore, assessment of practice includes a variety of work-integrated learning approaches.

PROGRESSION

A Bachelor's Degree is the minimum entry requirement for admission to a Master's Degree or Postgraduate Diploma.

(Higher Education Qualifications Sub-Framework)

GUIDELINES

i. The standard does not prescribe **assessment strategies**, methods, or types. However, a balanced approach to assessment methods should be adopted and the following are provided as some examples of assessment: written and oral assignments, tutorials, collaborative work, small group work through seminars, projects, case studies, portfolios, directed and independent research, presentations, examinations, and tests including short or long problem-solving questions, essays and/or multiple-choice questions, objective-structured clinical examinations, role plays, patient counselling exercises, reflective journals, and self-awareness tasks, observation and critique of real work environments, appropriately supervised work-based learning,
and other compulsory and voluntary service-learning and community engagement.

ii. The concept of **constructive alignment** is based on the premise that student achievement of learning outcomes is dependent on designing teaching and learning activities and associated assessment tasks in a manner that directly addresses and supports the learning outcomes.

iii. Specific **student: staff ratios** are not prescribed in the Standard. However, adequate context-relevant student: staff ratios must be in place to ensure that students receive sufficient individual and group guidance. For example, the clinical teaching context requires a lower ratio when compared to laboratory or classroom teaching.

iv. **Infrastructural resources**, for example, laboratory and tutorial venues, IT amenities, simulation facilities are available and fit-for-purpose to ensure that relevant theoretical and practical activities are aligned throughout the degree programme.

v. **Appropriately qualified** refers to the knowledge, skills, and applied competence of the academic staff and assessors in their relevant disciplines, and teaching, learning, and assessment practices.

vi. In the context of work-based learning, a **preceptor** is an experienced pharmacy practitioner or professional other suitably qualified professionals who by role-modelling exemplary practice, facilitates student learning, particularly the application of theory to practice.

vii. In the inter-professional educational context, **other professionals** included in facilitating teaching, learning, and assessment of students can be interpreted in the broadest context. For example, it may include a variety of people such as other healthcare professionals, engineers, economists, management consultants, graphic designers.

viii. The comprehensive guidelines for **work-integrated learning** (WIL) produced by the CHE[6] should inform practice in this respect. Work-integrated learning emphasises the integrative characteristics of career-focused education and includes classroom-based and workplace-based forms of learning that align academic, workplace, and professional practices relevant for the qualification. The CHE guidelines state WIL is an

[6] Council for Higher Education. (2011). *Work-Integrated Learning: Good Practice Guide*. Pretoria.

"umbrella term to describe curricular, pedagogic and assessment practices … that integrate formal learning and workplace concerns", and suggest that WIL includes but is not limited to experiential, inquiry, inter-professional, problem-based, action-based, project-based, scenario-based, service-based, team-based, virtual and/or simulated learning and may also use apprenticeships, cooperative education, practicum placement, work-based learning, work experience and/or workplace learning to augment the education programme.

ANNEXURE A

NQF LEVEL DESCRIPTORS

The qualification is awarded at level 8 on the National Qualifications Framework (NQF) and therefore meets the following level descriptors:

a. Scope of knowledge, in respect of which a learner is able to demonstrate knowledge of and engagement in an area at the forefront of a field, discipline, or practice; an understanding of the theories, research methodologies, methods, and techniques relevant to the field, discipline or practice; and an understanding of how to apply such knowledge in a particular context.

b. Knowledge literacy, in respect of which a learner is able to demonstrate the ability to interrogate multiple sources of knowledge in an area of specialisation and to evaluate knowledge and processes of knowledge production.

c. Method and procedure, in respect of which a learner is able to demonstrate an understanding of the complexities and uncertainties of selecting, applying, or transferring appropriate standard procedures, processes or techniques to unfamiliar problems in a specialised field, discipline, or practice.

d. Problem-solving, in respect of which a learner is able to demonstrate the ability to use a range of specialised skills to identify, analyse and address complex or abstract problems drawing systematically on the body of knowledge and methods appropriate to a field, discipline or practice.

e. Ethics and professional practice, in respect of which a learner is able to demonstrate the ability to identify and address ethical issues based on critical reflection on the suitability of different ethical value systems to specific contexts.

f. Accessing, processing and managing information, in respect of which a learner is able to demonstrate the ability to critically review information gathering, synthesis of data, evaluation and management processes in specialised contexts in order to develop creative responses to problems and issues.

g. Producing and communicating information, in respect of which a learner is able to demonstrate the ability to present and communicate academic, professional or occupational ideas and texts effectively to a range of audiences, offering creative insights, rigorous interpretations, and solutions to problems and issues appropriate to the context.

h. Context and systems, in respect of which a learner is able to demonstrate the ability to operate effectively within a system, or manage a system based on an understanding of the roles and relationships between elements within the system.

i. Management of learning, in respect of which a learner is able to demonstrate the ability to apply, in a self-critical manner, learning strategies which effectively address his or her professional and ongoing learning needs and professional and ongoing learning needs of others.

j. Accountability, in respect of which a learner is able to demonstrate the ability to take full responsibility for his or her work, decision-making and use of resources, and full accountability for the decisions and actions of others where appropriate.

ANNEXURE B

Members of the Bachelor of Pharmacy Standards Development Working Group

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