

# BACHELOR OF PHARMACY

(Qualification type: Professional Bachelor's Degree)

Qualification code: BPPH01 - NQF Level 8 (480 credits)

SAQA ID: 90565, CHE NUMBER: H/H16/E016CAN

Campus where offered:

Arcadia Campus

## REMARKS

a. *Admission requirement(s) and selection criteria:*

Please take note that all completed applications received within the published due dates will be ranked. After consideration of the Departmental Student Enrolment Plan, only the top ranking applicants will be selected. Once a programme is full, a waiting list will be in place to provide an opportunity for applicants to fill places of those who did not register on time. Applicants will be informed of their status per official letter from the Office of the Registrar, alternatively, they can check their application status on the TUT website, [www.tut.ac.za](http://www.tut.ac.za).

• **APPLICANTS WITH A SENIOR CERTIFICATE OBTAINED BEFORE 2008:**

**Admission requirement(s):**

A Senior Certificate or a relevant qualification, with at least a D symbol at Higher Grade, or a B symbol at Standard Grade for English, Mathematics, Physical Science and Biology. Applicants with Botany and/or Physiology in place of Biology will also be considered.

If an applicant obtained a relevant qualification at NQF Level 7 at another higher education institution, the academic department may use its own discretion to evaluate the applicant.

**Selection criteria:**

Applicants who comply with the above requirements will be invited for the TUT potential assessment and an interview with a departmental panel.

• **APPLICANTS WITH A NATIONAL SENIOR CERTIFICATE OBTAINED IN OR AFTER 2008:**

**Admission requirement(s):**

A National Senior Certificate with a bachelor's degree endorsement (four subjects with a minimum score of 4 in each) or equivalent recognised qualification, with an achievement level of at least 4 for English (home language or first additional language), 4 for Mathematics or Technical Mathematics, 4 for Physical Sciences or Technical Sciences, 4 for Life Sciences and 4 for two other subjects (excluding Life Orientation).

**Selection criteria:**

To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **24** (excluding Life Orientation).

**Assessment procedures:**

**For 2021:**

- Applicants with a score of 32 or more will be given preference for admission subject to availability of space.
- Applicants with a score of 24 to 31 will be placed on a waiting list.

**As from 2022:**

- Applicants with a score of 32 or more will be given preference for admission subject to availability of space.
- Applicants with a score of 24 to 31 will do the TUT potential assessment. Based on the results, some applicants will be invited for an interview with a departmental panel.



- **APPLICANTS WITH ANY RELEVANT QUALIFICATION AT NQF LEVEL 7:**  
If an applicant obtained a relevant qualification at NQF Level 7 at another higher education institution, the academic department may use its own discretion to evaluate the applicant.
- b. *Recognition of Prior Learning (RPL), equivalence and status:*  
See Chapter 30 of Students' Rules and Regulations.
- c. *Intake for the qualification:*  
January only.
- d. *Presentation:*  
Day classes offered in blocks as determined by the Department.
- e. *Minimum duration:*  
Four years.
- f. *Exclusion and readmission:*  
See Chapter 2 of Students' Rules and Regulations.
- g. *General information for registration with the South African Pharmacy Council (SAPC):*  
All students admitted to the first year of study must register with the SAPC before 30 June of the relevant year. Please contact the academic department for further information.

## CURRICULUM

### FIRST YEAR

CODE	MODULE	NQF-L	CREDIT
<b>FIRST OR SECOND SEMESTER</b>			
ATM145P	From Atoms to Molecules	(5)	(15)
IBP145P	Introduction to Biopharmaceutics, Pharmacokinetics and Pharmacodynamics	(6)	(21)
MMM145P	Microorganisms, Man and Medicines	(6)	(21)
MTM145P	From Molecules to Medicines	(6)	(21)
NAG145P	Nutrition and Gastroenterology	(6)	(21)
OPP145P	Orientation and Introduction to the Practice of Pharmacy in South Africa	(5)	(21)
TOTAL CREDITS FOR THE FIRST YEAR:			<b>120</b>

### SECOND YEAR

**After completion of all first-year modules.**

CODE	MODULE	NQF-L	CREDIT
<b>FIRST OR SECOND SEMESTER</b>			
CAP245P	Cardiovascular Pharmacy	(8)	(18)
IPL246P	Industrial Pharmacy Work-Based Learning	(7)	(18)
IPP246P	Industrial Pharmacy Practice	(6)	(18)
PHL246P	Primary Health Care Work-Based Learning	(6)	(18)



PPP246P	Principles and Practice of Pharmaceutical Manufacturing: Medicines Production on the Large Scale	(7)	(18)
RSE246P	Respiratory System, Ear and Eye	(7)	(30)
TOTAL CREDITS FOR THE SECOND YEAR:			<b>120</b>

### THIRD YEAR

After completion of all second-year modules.

CODE	MODULE	NQF-L	CREDIT
<b>FIRST OR SECOND SEMESTER</b>			
CPL347P	Community Pharmacy Work-Based Learning	(8)	(18)
CPP347P	Community Pharmacy Practice: Community-Based Pharmaceutical Care	(7)	(30)
EAR347P	Endocrinology and Reproduction	(7)	(21)
MTH347P	Modern Technologies in Health Care	(7)	(18)
NSS347P	Neuromuscular and Skeletal Systems, Skin, Inflammation and Pain Management	(7)	(21)
SPP347P	Sterile Pharmaceutical Products	(7)	(12)
TOTAL CREDITS FOR THE THIRD YEAR:			<b>120</b>

### FOURTH YEAR

After completion of all third-year modules.

CODE	MODULE	NQF-L	CREDIT
<b>FIRST OR SECOND SEMESTER</b>			
HPC448P	Hospital-Based Pharmaceutical Care and First-Aid	(8)	(21)
HPL448P	Hospital Pharmacy Work-Based Learning	(8)	(21)
NPP448P	Neurological and Psychiatric Pharmacy	(7)	(24)
RIP448P	Advanced Research Methodology and Project	(8)	(30)
SPH448P	Specialised Pharmacy and Hospital Pharmacy Practice	(8)	(24)
TOTAL CREDITS FOR THE FOURTH YEAR:			<b>120</b>
TOTAL CREDITS FOR THE QUALIFICATION:			<b>480</b>



## MODULE INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular module. At time of publication, the syllabus content was defined as follows:

### A

#### **ADVANCED RESEARCH METHODOLOGY AND PROJECT (RIP448P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

The theory and practice of research including, a structured project in an area of pharmacy. The module is presented in 3 parts: Part 1: Research methodology theory and protocol development. Part 2: Experimental phase and data collection. Part 3: Completion and submission of research report. These parts are separated by other modules for administration and logistic purposes. (Total tuition time: ± 108 hours)

### C

#### **CARDIOVASCULAR PHARMACY (CAP245P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

An overview of the anatomy and physiology of the cardiovascular and renal systems. The pathophysiology of the major disorders affecting the cardiovascular and renal systems. The pharmacology of the therapeutic agents, including antimicrobials, used to treat these disorders. (Total tuition time: ± 90 hours)

#### **COMMUNITY PHARMACY PRACTICE: COMMUNITY-BASED PHARMACEUTICAL CARE (GPP347P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

Administration, management skills and the philosophy of pharmaceutical care. Counselling, provision of advice and drug therapy management and their effects on the patient. Immune status importance of prevention and nutrition and their effects on the family. Epidemiology, health education and drug information and their effects on the community. The following aspects of dispensing: legal, communication with the patient and other health-care professionals, patient profiles, preparation of the prescription and record-keeping. The role of the pharmacist as a tutor. (Total tuition time: ± 126 hours)

#### **COMMUNITY PHARMACY WORK-BASED LEARNING (CPL347P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

Practical experience in aspects of the dispensing process, pharmacist initiated care, communication with the patient and other health-care workers, specialist areas of community pharmacy, legal and ethical requirements and important aspects of management. (Total tuition time: ± 36 hours)

### E

#### **ENDOCRINOLOGY AND REPRODUCTION (EAR347P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

A study of the pathophysiology of major disorders affecting the endocrine system, coupled with drug treatment of such conditions. This module includes the basic female and male reproduction functions, diseases and conditions that are under hormonal control, including pregnancy, growth development, birth, genetics, lactation and ageing. (Total tuition time: ± 108 hours)

### F

#### **FROM ATOMS TO MOLECULES (ATM145P) CONTINUOUS ASSESSMENT** *(Module custodian: Department of Pharmaceutical Sciences)*

Drug entities of synthetic organic/inorganic nature: structure, reactivity, bonding, acid/base characteristics, configuration and conformation, periodic table, redox reactions, salt formation, pH, pKa, limit tests, physical phases. Analytical methods. (Total tuition time: ± 72 hours)

**FROM MOLECULES TO MEDICINES (MTM145P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

An overview of the design and development of pharmaceutical products. Research and development of drug delivery systems, chemistry of medicinal compounds – introductory organic chemistry, the reactions that drug compounds undergo, physical and chemical properties of drugs and how these affect formulation, isolation/synthesis of active ingredients, preformulation, formulation, basic principles underlying the development of drug delivery systems, the various drug delivery systems, stability aspects, an introduction to preclinical and clinical trials, compounding of medicines. (Total tuition time: ± 90 hours)

**H****HOSPITAL-BASED PHARMACEUTICAL CARE AND FIRST-AID (HPC448P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

The principles and practice of pharmaceutical care in a hospital setting. The module covers the completion of a patient database, identification of patient's drug related needs, construction of a drug related problem list and the development, implementation and evaluation of pharmaceutical care plan. First-aid. Human resource management (Provide well managed human resources in the hospital pharmacy). (Total tuition time: ± 126 hours)

**HOSPITAL PHARMACY WORK-BASED LEARNING (HPL448P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

Philosophy of pharmaceutical care, health systems, managing drug supply, administration and management. Treatment plans. (Total tuition time: ± 36 hours)

**I****INDUSTRIAL PHARMACY PRACTICE (IPP246P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

An overview of the pharmaceutical manufacturing facility and organisational layout. Planning for production. The manufacturing facility. The principles and practice of quality assurance, including good manufacturing practices and quality control. (Total tuition time: ± 90 hours)

**INDUSTRIAL PHARMACY WORK-BASED LEARNING (IPL246P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

Practical experience in aspects of the medicines regulatory process, production of pharmaceuticals, pharmaceutical research and development, implementing good manufacturing procedures, quality assurance, personnel and business management, as well as the marketing and advertising of pharmaceuticals. (Total tuition time: ± 36 hours)

**INTRODUCTION TO BIOPHARMACEUTICS, PHARMACOKINETICS AND PHARMACODYNAMICS (IBP145P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

An introduction to health-care interventions and biopharmaceutics (processes prior to drug administration), pharmacokinetics (processes that include drug absorption, distribution, metabolism and excretion) and therapeutic drug monitoring and pharmacodynamics (drug action). (Total tuition time: ± 90 hours)

**M****MICROORGANISMS, MAN AND MEDICINES (MMM145P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

A study of medically important micro-organisms, including bacteria, viruses, fungi, protozoa, helminths and arthropods. Biological and microbiological aspects of structure, growth, diagnosis, virulence, pathogenesis, sensitivity, resistance and transmission. An introduction to the body's defences against infection, including the lymphatic system, cells of the immune system and inflammatory and hypersensitivity reactions. Additional agents used in infections. (Total tuition time: ± 90 hours)



**MODERN TECHNOLOGIES IN HEALTH CARE (MTH347P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

Principles of molecular biology, the principles, methods and products of biotechnology, such as fermentation, recombinant DNA technology, gene therapy and immunological assays as applied to the diagnosis, prevention and treatment of inherited and acquired diseases. Theory and practice of new drug delivery systems. The immune system response and host defence mechanisms, with particular reference to diseases that can be prevented through immunisation. The principles and production of vaccines, antisera, immunoglobulins and the principles of hybridisation technology. (Total tuition time: ± 90 hours)

**N****NEUROLOGICAL AND PSYCHIATRIC PHARMACY (NPP448P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

An integrated study of the basic anatomy and physiology of the brain and nervous system. The module includes the pathophysiology of the major disorders affecting the central nervous system, with the emphasis on the pharmacology of appropriate therapeutic agents. Substance abuse, anaesthetics and pain management are also covered. (Total tuition time: ± 126 hours)

**NEUROMUSCULAR AND SKELETAL SYSTEMS, SKIN, INFLAMMATION AND PAIN MANAGEMENT (NSS347P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

An integrated study of the anatomy, physiology, pathophysiology and pharmacotherapy of the skeletal, neuromuscular systems and skin. The module also includes wounds and dressings. Emphasis is placed on the pharmacology of therapeutic agents used to treat disorders of these systems. (Total tuition time: ± 108 hours)

**NUTRITION AND GASTROENTEROLOGY (NAG145P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

An anatomical and physiological overview of the liver and gastro-intestinal tract and their innervation, with particular emphasis on the absorption and metabolism of nutrients and drugs. Major problems of nutrition and metabolic or chronic disorders in which nutrition plays a pivotal role will be addressed, including diabetes, obesity, eating disorders, malabsorption, alcohol abuse and pancreatitis. The identification of the presence of risk factors for malnutrition. The chemistry, pharmaceuticals and pharmacology of drugs affecting the gastro-intestinal tract and drugs used to treat common GI problems. (Total tuition time: ± 90 hours)

**O****ORIENTATION AND INTRODUCTION TO THE PRACTICE OF PHARMACY IN SOUTH AFRICA (OPP145P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

Introduce students to the institution, acquainting them with the administration, student and general organisations and campus layout. Personal development by prompting students' social skills, academic skills, computer literacy, proficiency in English. Introduce students to Problem Based Learning (PBL) method. Provide an overview of the nature and ethos of the pharmacy profession. National Drug Policy, selection, procurement, distribution, cold chain management. Applicable legislation. Drug information and rational drug use. Essential Medicines List and treatment protocols. Medicines pricing. Ethics. Good Pharmacy practice. Interaction with other health-care professionals. (Total tuition time: ± 126 hours)

**P****PRIMARY HEALTH CARE WORK-BASED LEARNING (PHL246P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

Practical experience in aspects of pharmaceutical and related services at Primary Health Care level. (Total tuition time: ± 72 hours)

**PRINCIPLES AND PRACTICE OF PHARMACEUTICAL MANUFACTURING: MEDICINES PRODUCTION ON THE LARGE SCALE (PPP246P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Pharmaceutical Sciences)**

An overview of the manufacturing of pharmaceuticals. Physical, chemical and pharmaceutical principles in the production, packaging and labelling of pharmaceutical products. (Total tuition time: ± 90 hours)



**R****RESPIRATORY SYSTEM, EAR AND EYE (RSE246P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

The structure and functioning of the respiratory system, ear and eye. The role of the nervous system in controlling the functioning of the respiratory system, ear and eye. Important disorders of the respiratory system, ear and eye and their prevention, non-pharmacological and pharmacological management. (Total tuition time: ± 126 hours)

**S****SPECIALISED PHARMACY AND HOSPITAL PHARMACY PRACTICE (SPH448P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

Major managerial and clinical areas of pharmacy, e.g. logistics and financial management, including cold chain management, standard operating procedures, control of bulk compounding and preparation of sterile products, pharmacy and therapeutic committees, pharmacoconomics in drug selection, drug information, infection control, clinical nutrition, (parenteral and enteral feeding and stoma care), oncology, radiopharmacy and radioisotopes, transplants and related drug therapy, handling of pharmaceutical waste, the role of the consultant pharmacist. (Total tuition time: ± 126 hours)

**STERILE PHARMACEUTICAL PRODUCTS (SPP347P)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Pharmaceutical Sciences)*

An overview of the manufacturing of sterile pharmaceutical products. Sterilisation. The control of contamination. The manufacturing of sterile pharmaceutical products. The principles and practice of quality assurance, including good manufacturing practices and quality control, as applied to sterile pharmaceutical products. (Total tuition time: ± 72 hours)

