

UNIVERSITY OF THE FREE STATE

YEARBOOK

FACULTY OF HEALTH SCIENCES

SCHOOL OF NURSING

UNDERGRADUATE PROGRAMME

2014

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Keep this yearbook for the rest of your period of study as it will apply to you until you complete your studies. This yearbook must be read together with the University of the Free State General Rules (First Qualifications) 2014.

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DEFINITIONS

Refer to the University of the Free State General Rules 2014 for the definition of terms to ensure clarity and uniform interpretation.

INFORMATION

The BSocSc degree is a four-year integrated programme which, with the cooperation of a number of service departments and health care institutions, enables the student to register as a nurse (general, psychiatric and community health) and midwife with the South African Nursing Council (SANC).

Rule V1: ADMISSION REQUIREMENTS AND SELECTION

The National Benchmark Tests (NBTs) are compulsory for all prospective first year students (Rule A3.9).

Prospective students are subjected to selection due to the high demands of the nursing profession and limited clinical training facilities. The School of Nursing, UFS reserves the right to request or obtain information in order to carry out the selection process. Selection takes place according to the selection policy of the School of Nursing.

In terms of General Rule A3.1 prospective students who passed the grade 12 examination from 2008 or later must be in possession of the following to apply for admission to BSocSc (Nursing):

A National Senior Certificate allowing admission to Bachelor's study that has been issued by the Matriculation Board with an Admission Point (AP) of at least 30 is required. Further requirements are:

- Language of instruction (Afrikaans or English) – level 4 (50%)

AND

- Mathematics - Achievement level 3 (40%) OR Mathematical Literacy - Achievement level 6 (70%)

AND

- Life Sciences - Achievement level 5 (60%) OR Physical Sciences - Achievement level 4 (50%)

Prospective students who passed the grade 12 examination prior to 2008 can be admitted according to the rules as published in the 2011 University of the Free State yearbook.

Fully completed selection forms are subjected to a selection process.

Provisionally selected students must pay a deposit on a specified date. The deposit will be subtracted from class fees. If a student cancels before 31 December of the year before the intended year of study, 25% of the deposit will be refunded. Thereafter no money is refundable.

The School of Nursing reserves the right to request or to obtain information in order to ascertain whether students are physically and psychologically equipped to meet the demands of the programme, before admission or during training. Selection is also applied in this regard.

Rule V2: RECOGNITION OF PRIOR LEARNING

Prior learning is recognized by means of:

- portfolio submissions;
- tests and/or;
- examinations and/or;
- clinical skills tests and/or;
- objective structured clinical evaluation; and
- other relevant methods as determined by the Head of the School.

Rule V3: CONTACT SESSIONS

- a) All scheduled nursing practical contact sessions (VRP114, 124, 214, 224, 314 and 324) are compulsory. Students who do not attend all the practical contact sessions will not be admitted to the particular examination. Special arrangements will, however, be made if sessions are missed for acceptable reasons. In the case of midwifery and psychiatric nursing the practical contact sessions are integrated with the theoretical contact sessions and this rule does not apply. However, section (b) of this rule does apply.
- b) All theoretical contact sessions attended within the Faculty of Health Sciences are compulsory. Students who attended less than 80% of contact sessions of a module will not be allowed to take part in the summative assessment in the main examination and will be regarded as having failed the module and not be considered for the additional examination, except when the Dean decides otherwise.

Rule V4: READMISSION AND PROGRESS

General Rules A3.10 and A3.11 apply.

- (a) The scope and the timetable of modules for which students may register are arranged in consultation with the Head of the School and the Undergraduate Programme Director.
- (b) No student may register for an alternative module instead of an existing module of the approved curriculum, unless these modules have been equated.

- (c) Theoretical and/or practical Nursing module(s) must be successfully completed before a student may register for theoretical and/or practical Nursing module(s) in any successive academic years. In addition the required clinical hours per year must be met in order to pass the relevant practical module. An exception to the rule may be allowed only in consultation with the Dean.
- (d) A student may not be promoted to the third academic year if **any** module(s) of the first and/or second academic year are outstanding. An exception to the rule may only be made in consultation with the Dean.
- (e) A student who does not pass at least 50% of the number of registered modules per annum, will not be allowed to re-enter the programme.
- (f) In the case where students interrupt their studies and wish to resume their studies again, a maximum of five (5) years since the date of discontinuation, is allowed.

Rule V5: CLINICAL EXPERIENCE

Clinical experience is compulsory and consists of two components:

- **scheduled nursing experiential learning contact sessions and**
 - **scheduled work based hours in health services institutions.**
- a) Clinical work based hours must be performed in health service institutions accredited by the SANC.
 - b) All facets of clinical experience, including the scope and timetable, are arranged by the Programme Director.
 - c) The prescribed period must be completed and clinical outcomes achieved before students can be registered with the South African Nursing Council as General, Psychiatric and Community nurses and Midwives.
 - d) Students will be expected to do work based hours at weekends, on public holidays and during university holidays.
 - e) Clinical experience as prescribed in the applicable module guide is required for admission to summative practica assessment (Rule V6 (f)).

Rule V6: REQUIREMENTS TO PASS

General Rule A9 applies.

- a) If a module is comprised of two theoretical papers, a subminimum of 40% per paper and a combined mark of 50% must be obtained in the same examination opportunity.
- b) Promotion does not take place in any nursing module.

- c) The module mark of a practical module contributes 50% and the examination mark 50% to the combined mark. A subminimum of 50% must be obtained in the practical examination.
- d) Students who fail in the final year module VRP404 may be assessed after 6 months. In such cases they register for VRP414.
- e) Students who fail in the final year module NPP404, may be re-assessed after 6 months. In such case they register for PSP414 or PSP424.
- f) If a student does not qualify for admission to the main clinical examination, admission for the additional clinical examination can only occur with the recommendation of the Head of the School.

Rule V7: QUALIFICATION WITH DISTINCTION

The degree is awarded with distinction if the student obtains:

- a combined average mark of 75% in all the Nursing modules;
- a combined average of at least 75% in any 10 remaining modules; and
- the degree in the minimum prescribed period.

Rule V8: REGISTRATIONS WITH THE SOUTH AFRICAN NURSING COUNCIL

Students in Nursing are compelled to register with the South African Nursing Council as students in Nursing. Students will be notified by the University when such registration should take place.

After successful completion of BSocSc (Nursing) and having met the minimum requirements prescribed for the education and training as a Nurse (General, Psychiatric and Community Health) and Midwife the School of Nursing will lodge a completed application for the student for registration in the category Community Service with the South African Nursing Council.

Rule V9: PRESENTATION OF MODULES AND PRECONDITIONS

VRT116 and VRP114 must be presented simultaneously
 VRT128 and VRP124 must be presented simultaneously
 VRT217 and VRP214 must be presented simultaneously
 VRT229 and VRP224 must be presented simultaneously
 NUR316 and VRP314 must be presented simultaneously
 NUR326 and VRP324 must be presented simultaneously
 VER415, VER 424 and VRP404 must be presented simultaneously
 PSI415, PSI424 and NPP404 must be presented simultaneously

Rule V10: LEARNING PROGRAMME (CURRICULUM)

**Learning programme for the BSocSc (Nursing) degree with endorsement
 General Nursing, Community Nursing, Psychiatric Nursing and Midwifery**

First year

SEMESTER 1*			SEMESTER 2*		
Module		Credits	Module		Credits
Nursing	VRT 116	24	Nursing	VRT 128	32
Nursing practical	VRP114	16	Nursing practical	VRP124	16
Psychology	PSY 152	8	Microbiology	MCB 224	16
Sociology	SOS152	8	Anatomy and Physiology theory	BMN124	16
Chemistry	CEM112	8	Anatomy and Physiology practical	BMN143	12
Microbiology	MCB214	16			
		80			92

***UFS101 is compulsory for all first time first year students [Refer to General Rules (First Qualifications) Rule A3.9] It contributes an additional 16 credits to the minimum required credits for this qualification.**

Work based hours in accredited health care institutions as prescribed by the professional council.

Second year

SEMESTER 1			SEMESTER 2		
Module		Credits	Module		Credits
Nursing	VRT217	28	Nursing	VRT229	36
Nursing practical	VRP214	16	Nursing practical	VRP224	16
Pharmacology	FRM212	8	Sociology	SOS224	16
			Pharmacology	FRM222	8
Anatomy and Physiology theory	BMN214	16			
Anatomy and Physiology practical	BMN233	12			
		80			76

Work based hours in accredited health care institutions as prescribed by the professional council

Third year

SEMESTER 1			SEMESTER 2		
Module		Credits	Module		Credits
Nursing	NUR316	24	Nursing	NUR326	24
Nursing practical	VRP314	16	Nursing practical	VRP324	16
Health care dynamics	GSD314	16	Psychology	PSY224	16
Medical physics	BFS312	8			
Research	RES304	16			
		80			56

Work based hours in accredited health care institutions as prescribed by the professional council

Fourth year

SEMESTER 1			SEMESTER 2		
Module		Credits	Module		Credits
Midwifery	VER415	20	Midwifery	VER424	16
Psychiatric nursing	PSI 415	20	Psychiatric nursing	PSI424	16
Midwifery practical	VRP404	16			
Psychiatric nursing practica	NPP404	16			
		72			32

Work based hours in accredited health care institutions as prescribed by the professional council

TOTAL CREDITS: 568 + 16 (UFS101) = 584

BRS111: Computer literacy (4 credits) is recommended for students who are not computer literate

Explanation of module codes:

VRT 116/128/217/229	Nursing
NUR316/326	Nursing
VRP114/124/214/224/314/324	Nursing practical
VRP404	Midwifery practical
NPP404	Psychiatric nursing practical
VER415/424	Midwifery
GSD314	Health care dynamics
PSI415/424	Psychiatric nursing
PSY152/224	Psychology
SOS152/224	Sociology
CEM112	Chemistry
MCB214/224	Microbiology
BFS312	Medical physics
FRM212/222	Pharmacology
BMN124/214	Anatomy and Physiology theory
BMN143/233	Anatomy and Physiology practical
RES304	Research

The following equalisations apply for recognition purposes:

Name of course	Code	Name of course	Code
Anatomy	ANB125	Anatomy	ANB115
Anatomy	ANB215	Anatomy	ANB125
Physiology	FFB125	Physiology	FFB125
Physiology	FFB215	Physiology	FFB200
Medical physics	BFS115	Medical physics	BFS125
Midwifery	VRT416or 426	Midwifery	VRT316 and 326
Psychiatric nursing	VRT417 or 427	Psychiatric nursing	VRT317 and 327
Psychology	SIL115	Psychology	SIL175
Nursing practical	VRP400	Nursing practical	VRP411(for repeaters)
Nursing theory	VRT215	Nursing theory	VRT127 and 226
Nursing theory	VRT225	Nursing theory	VRT216, VRT226, VRT318 and VRT328

Name of course	Code	Name of course	Code
Nursing theory	VRT115	Nursing theory	VRT117
Nursing theory	VRT125 and VRT 126	Nursing theory	VRT127

Since certain module codes have been amended as from 2002, the following equivalences apply:

Name of course	Code	Name of course	Code
Chemistry	CEM113	Chemistry	CEM112
Psychology	SIL115	Psychology	PSF112 and PSF132
Psychology	SIL385/325	Psychology	PSY222 and PSY242
Physiology	FFB125	Physiology	FFB123
Physiology	FFB215	Physiology	FFB213
Microbiology	MCB113	Microbiology	MCB212 and MCB232
Microbiology	MCB245	Microbiology	MCB222 and MCB242
Medical physics	BFS115	Medical physics	BFS312
Philosophy	WYS115	Philosophy	WYS112 and WYS132
Philosophy	WYS125	Philosophy	WYS122 and WYS142
Sociology	SOS225	Sociology	SOS222 and SOS242
Nursing theory	VRT117	Nursing theory	VRT116
Nursing theory	VRT127	Nursing theory	VRT128
Nursing practical	VRP110	Nursing practical	VRP114
Nursing practical	VRP120	Nursing practical	VRP124
Nursing theory	VRT216	Nursing theory	VRT217
Nursing theory	VRT226	Nursing theory	VRT229
Nursing practical	VRP210	Nursing practical	VRP214
Nursing practical	VRP220	Nursing practical	VRP224
Nursing practical	VRP310	Nursing practical	VRP311 and VRP312= VRP314
Nursing practical	VRP404	Nursing practical	VRP414
Midwifery practical	VRP402	Midwifery practical	VRP404
Nursing theory	VRT318	Nursing theory	NUR316
Health care dynamics	VRT319	Health care dynamics	GSD314
Nursing theory	VRT328	Nursing theory	NUR326
Nursing practical	VRP400	Nursing practical	VRP411 (repeaters)
Nursing practical	VRP320	Nursing practical	VRP324
Research project	VRT403	Research project	VRT402
Research project	VRT403 or VRT402	Sociology (Research)	SOS242 and SOS382
Anatomy	ANB125	Anatomy	ANB124
Anatomy	ANB215	Anatomy	ANB224
Pharmacology	FRM215	Pharmacology	FRM212
Pharmacology	FRM225	Pharmacology	FRM222
Midwifery	VRT316 and VRT326	Midwifery	VRT416= VRT419 or VRT429
Midwifery	VRT316 and VRT326	Midwifery	VRT426 = VRT429
Psychiatric nursing	VRT317 and VRT327	Psychiatric nursing	VRT417 = PST419
Psychiatric nursing	VRT317 and VRT327	Psychiatric nursing	VRT427 = PST419 or PST429
Psychiatric nursing practical	VRP411 and VRP422	Psychiatric nursing practical	PSP414 or PSP424

Because of alterations in certain module codes in 2003, the following equivalences apply:

Name of course	Code	Name of course	Code
Midwifery theory	VRT419	Midwifery theory	VER415 and VER424
Midwifery theory	VRT429	Midwifery theory	VER415 and VER424

Name of course	Code	Name of course	Code
Psychiatric theory	PST419	Psychiatric theory	PSI415 and PSI424
Psychiatric theory	PST429	Psychiatric theory	PSI415 and PSI424
Psychiatric nursing practical	PSP414	Psychiatric nursing practical	NPP404
Psychiatric nursing practical	PSP424	Psychiatric nursing practical	NPP404

Because of alterations in certain module codes in 2004, the following equivalences apply:

Name of course	Code	Name of course	Code
Sociology	SOS242 and SOS382	Sociology	SOS324

Because of alterations in certain module codes in 2005, the following equivalences apply:

Name of course	Code	Name of course	Code
Microbiology	MCB212 and MCB232	Microbiology	MCB214
Microbiology	MCB222 and MCB242	Microbiology	MCB224
Anatomy Physiology	ANB124 FFB123	Anatomy and Physiology theory Anatomy and Physiology practical	BMN124 BMN143
Anatomy Physiology	ANB214 FFB213	Anatomy and Physiology theory Anatomy and Physiology practical	BMN214 BMN233

Because of alterations in certain module codes in 2008, the following equivalences apply:

Name of course	Code	Name of course	Code
Sociology	SOS324	Research	RES304
Psychology	PSY132	Psychology	PSY152
Psychology	PSY222	Psychology	PSY312
Psychology	PSY242	Psychology	PSY332
Sociology	SOS222	Sociology	SOS224

Because of alterations in certain module codes in 2009, the following equivalences apply:

Name of course	Code	Name of course	Code
Psychology	PSY312/PSY332	Psychology	PSY224

Rule V11: DURATION OF THE PROGRAMME

Students who have not completed their studies in the minimum time, plus 2 (two) years (calculated from the date of first registration with the University), and have not completed their degree, will not be allowed to complete their studies without the permission of the Dean of the Faculty of Health Sciences [Rule A5].

LEARNING CONTENT

The themes of the theoretical modules, the scope of papers and the credits are outlined in Table 2.

NURSING

The theoretical bases of the generic and specific nursing skills that are related to the theoretical contents of modules are presented in the nursing modules, where applicable:

- Problem-solving
- The application of comprehensive health care
- Implementing primary health-care principles
- Handling ethical issues
- Engaging in professional practice
- Management
- Leadership
- Communication
- Patient referrals
- Applying legislation
- Effective use of technology

TABLE 2: Themes of modules and the scope of papers and credits

Modules and papers	Themes	Credits
Nursing Theory VRT116 One paper of 3 hours	<ul style="list-style-type: none"> - Introduction to research - Demography and epidemiology - Community development and partnerships - Primary Health Care Systems - Ethics, scope of practice, policy documents, management and leadership - Nursing models - Group dynamics - Problem solving process - Environmental health - Basic Human Needs - HIV and AIDS 	32
Nursing Theory VRT128 Two papers of 2 hours each	<p>Paper 1</p> <ul style="list-style-type: none"> - Family assessment - Family dynamics - Home based visits and home based care - Developmental milestones of the human being <p>Paper 2 Using the nursing process in identifying and dealing with basic and selected health needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase with regard to:</p> <ul style="list-style-type: none"> - HIV/AIDS - Dermatology - Communicable diseases with skin lesions - Nutritional deficiencies - Baby nutrition - The ear, nose and throat - Wound care 	32

Modules and papers	Themes	Credits
Nursing Theory VRT217 One paper of 3 hours	<ul style="list-style-type: none"> - Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase of immune suppression. - An IMCI (Integrated Management of Childhood Illnesses) module as compiled by the WHO, is presented. It involves the five main causes of child deaths (0-5 years), namely , diarrhoea, fever, respiratory problems, haematological disorders and nutritional deficiencies - Professional Practice 	28
Nursing Theory VRT229 Two papers of 2 hours each	<p>Paper 1 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on the following systems:</p> <ul style="list-style-type: none"> - Reproductive and - Musculoskeletal system - Ophthalmology - Professional Practice <p>Paper 2 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on the following systems:</p> <ul style="list-style-type: none"> - Cardio-vascular system (hypertension and chest pain) - Endocrinology - Mammae (Breast) and - Gastrointestinal system 	36
Nursing Theory NUR316 Two papers of 2 hours each	<p>Paper 1 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on:</p> <ul style="list-style-type: none"> - Pain - Shock - Peri-operative care - Burns - Pulmonology <p>Paper 2 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on the following systems:</p>	24

Modules and papers	Themes	Credits
	<ul style="list-style-type: none"> - Cardiovascular and - Gastrointestinal systems 	
Nursing Theory NUR326 Two papers of 2 hours each	<p>Paper 1 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on:</p> <ul style="list-style-type: none"> - musculo-skeletal - nephrological and - ophthalmological systems <p>Paper 2 Using the Nursing process in identifying and dealing with basic and selected health-care needs, as well as identifying and treating selected acute and general disease conditions of individuals and/or groups in any developmental phase that has bearing on:</p> <ul style="list-style-type: none"> - neurological systems - occupational health care 	24
Nursing dynamics GSD314 One paper of 3 hours	The professional practitioner; professionalism, world view, mission and vision, legislation, information management systems The unit manager and professional practitioner	16
Midwifery VER415 One paper of 3 hours	<ul style="list-style-type: none"> - Using the midwifery care process in determining the status of a pregnant woman rendering antenatal care, the management of normal births, and the post-natal care of the mother and the baby. 	20
Midwifery VER424 One paper of 3 hours	<ul style="list-style-type: none"> - Using the midwifery care process in managing abnormal births, the complications of pregnancy, as well as care of the mother with postpartum complications and the newborn with abnormalities and complications. 	16
Psychiatric Nursing PSI415 One paper of 3 hours	<ul style="list-style-type: none"> - Using the nursing process in treating individuals and groups who suffer from general mental health problems. 	20
Psychiatric Nursing PSI424 One paper of 3 hours	<ul style="list-style-type: none"> - Using the nursing process in caring for individuals and groups who suffer from mental health disorders and intellectual disabilities . - Child psychiatry 	16
Psychology PSY152 One paper of 1 hour	<ul style="list-style-type: none"> - Stress, coping and various aspects of health and wellness - Coping strategies for anxiety, failure, depression, interpersonal conflict, loss and illness 	8
Psychology PSY224 One paper of 1 hour	The purpose of this module is to introduce students to the study of human development from conception to adolescence.	16
Sociology SOS152 Continuous assessment	<ul style="list-style-type: none"> - Introduction to society and the population - Health/disease behaviour - Therapist-patient relationship - Health-care systems - History of the hospital - Functioning of a hospital - Impact of advanced health-care technology on the environment 	8

Modules and papers	Themes	Credits
Sociology (Work-place issues in industrial South Africa) SOS224 Continuous assessment	Apart from the various theories of work, that allow the learner to gain useful insights with regard to the organisation of work, this module also pays attention to the evolution of work, industrial democracy and worker participation, strategies to achieve equity in the workplace, as well as the problems of unemployment and worker productivity.	16
Research RES304	<ul style="list-style-type: none"> - The steps in the research process; - Quantitative and qualitative research; - Principles and types of sampling; - Research ethics; - Requirements that apply to a practicable research proposal; - Modes and techniques of data-collection - Measurement of concepts and variables; - Data processing; - Data interpretation (reading univariate and bivariate tables); - Writing a research report. 	16
Chemistry CEM112 One paper of 1 hour	<ul style="list-style-type: none"> - Energy and matter (characteristics and phases of matter, phase changes, the role of energy in phase changes; composition of matter). - Structure of matter (fundamental entities within the atom, isotopes, the arrangement of electrons in the atom energy sub-levels, the periodic table). - Chemical bonds (molecules, stability of the atom, symbols and formulas, electron-point structures, ion formation, covalent and ionic bonds, oxidation numbers; percentage composition). - Radioactivity (alpha, beta, gamma, and X rays, measuring radiation intensity, half-life; radio-isotopes in medicine). - Chemical equations and reactions (balancing chemical equations, chemical balance, reaction kinetics). - The gaseous condition (kinetic molecular theory, combined gas laws; air pollution, health hazards associated with pollution). - Oxygen and other gases (physical and chemical characteristics, preparation and medical application of a series of gases). - Oxidation and reduction (basic concepts in redox chemistry, the importance of redox reactions in the health sciences). - Water (physical and chemical characteristics, purification and uses of water). - Fluid mixtures (characteristics and concentrations of solutions, isotonic, hypotonic and hypertonic solutions, diffusions and osmosis in living cells). - Acids and bases (chemical characteristics of acids and bases, medical applications, strong and weak acids/bases, the pH principle, pH and health). - Salts (formation and medical application of salts, buffer solutions). - Organic chemistry (introduction to organic chemistry, alkanes, alcohols, ethers, organic 	8

Modules and papers	Themes	Credits
	acids, the medical importance and applications of organic compounds).	
Microbiology (Introduction †) MCB214 One paper of 3 hours	Historical overview and introduction to Microbiology. Classification, cell structure and characteristics of higher protista (algae, protozoa and fungi) and the lower protista (bacteria, cyanobacteria, rickettsias and viruses). Microbial symbiosis, lichens, mycorrhiza, nitrogen binding, the rumen. Characteristics and importance of selected bacterial groups, metabolic pathways. Basic virology, structure, characteristics and replication of bacteriophages, animal viruses and plant viruses. Bacteria: classification, distinguishing characteristics, importance, nutritional groups and physiology, nitrogen and sulphur cycle in nature. Food poisoning: poisoning through the intake of micro-organisms and microbe toxins associated with contaminated food. Microbe genetics: flow of DNA to protein and control mechanisms. Principles and definitions, recombination, gene transfer, plasmids and mobile genetic elements. Microbe Biotechnology: conventional and modern biotechnology, fields of application in industry. Immunology: important historical events, definitions and terminology, non-specific and specific resistance.	16
Microbiology (Practical growth and decay) MCB224 One paper of 3 hours	<ul style="list-style-type: none"> - Microbe counts: Total counts (direct and indirect methods), living counts. - Microbe growth: Growth comparisons: Exponential growth and the general growth equation, calculating specific growth rate, doubling time and yield coefficient. The Monod equation. Growth curves: phases, linear growth. Oxygen as substrate: effect on growth, the provision of oxygen and volumetric transfer coefficient. - Microbe death: Measurement of rate of decay, decimal reduction time, Z value. Heat resistance. Factors that influence decay. Practical application of eliminating microbes through heat. The influence of other anti-microbe agents: radiation, physical and chemical agents. - Microbe nutrition: Carbon, nitrogen and mineral sources, growth factors. Nutrition classes. Formulation of cultural media. Buffers and pH. - Total and living counting methods. Microscopy. Bacterial isolations on selected and differential media. Growth and decay curves: determining kinetic parameters; the effect of environmental conditions. Determining viability of yeast cells. Students will also complete a computer-supported self-study module in bacterial growth. 	16
Anatomy and Physiology BMN124 One paper of 3 hours	<ul style="list-style-type: none"> - Introduction, terminology and basic embryology - Skeletal systems - Articular system - Muscular system - Digestive systems - Chemical composition of the body - Nutrition and metabolism - Physiology of the digestive system 	16

Modules and papers	Themes	Credits
	<ul style="list-style-type: none"> - Physiology of respiration - Skin and body temperature - Autonomous nervous system - Basic physiology of the nervous system - Physiology of blood - Body protection 	
Anatomy and Physiology BMN214 One paper of 3 hours	<ul style="list-style-type: none"> - Circulatory system - Respiratory system - Nervous system - Sense organs and the skin - Uro-genital system - Endocrine system - Cardiovascular physiology - Endocrine physiology - Sexual physiology and physiology of pregnancy - Kidney physiology - Acid-base balance - Somatic nervous system 	16
Pharmacology FRM212 One paper of 3 hours	<ul style="list-style-type: none"> - Pharmacokinetics and pharmacodynamics - Routes of administering, formulations and legislation - Anti-microbe medicines - Anti-fungal, anti-viral and anti-helminthic medical substances - Anti-tuberculosis medicines - Protozoal infections (including malaria) and rickettsiae - Analgesics - Diuretics - Fluids and electrolytes - Vitamins - Anti-histamines - Medicines used in the treatment of hematological conditions 	8
Pharmacology FRM222 One paper of 3 hours	<ul style="list-style-type: none"> - Endocrine pharmacology - Pharmacology and the autonomous nervous system - The cardio-vascular system - The respiratory system - Neuropsychopharmacology - Gastro-intestinal tract - Dermatology - Uro-genital pharmacology - Eye pharmacology - Emergency conditions and anaesthetic substances - Cancer chemotherapy - Pharmacogenetics - Medicines in extreme ages, pregnancy and lactation - Interactions between medicines - Poisonings - Substance abuse and dependence - Control over therapeutic substances and methods of prescriptions 	8

Modules and papers	Themes	Credits
Biophysics BFS312 One paper of 3 hours	This course is aimed at seeking applications from Physics in the work environment of the nurse. The aim is to highlight the physical principles in the functioning of the apparatus so that better insight may be gained into its functioning, as well as to approach problems from an analytical perspective. The apparatus that is dealt with, cover a wide front, including blood-pressure apparatus, ECG monitors, drip counters, suction apparatus, dialysis machines, ultra-sound apparatus, etc. The course also considers clinical applications of physics, e.g. the electrical functioning of the heart, the person's capacity to generate heat; the treatment of fever; the physical functioning of the kidneys, etc. The course also pays attention, in a broad sense, to radio-activity and radiation with regard to the applications in radio therapy, diagnostic radiology, and nuclear medicine, as well as radiation protection.	8