



FACULTY OF SCIENCE AND AGRICULTURE

SCHOOL OF PHYSICAL AND MINERAL SCIENCES

ACADEMIC YEAR 2023

REGISTRATION GUIDELINES FOR UNDERGRADUATE QUALIFICATIONS

MODULES TO REGISTER: 2023

Bachelor of Science (Physical Sciences): BSCC01

CURRICULUM

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
YEAR LEVEL 1						
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Differential and Integral Calculus	SMTH011			Yes	12	0.1
General Chemistry 1A	SCHM011		SMTH011	Yes	12	0.1
General Physics 1A	SPHS011		SMTH011	Yes	12	0.1
Health Education and Life Competencies I	SHEL011			No	12	0.1
1ST SEMESTER ELECTIVE MODULES						
Introduction to Biological Studies	SBIO011			Yes	12	0.1
Computing Concepts and Algorithms	SCSC011			No	12	0.1
Introduction to Applied Mathematics	SAPM011			No	12	0.1
Introduction to Geology	SGLA011			Yes	12	0.1
Introduction to Statistics	SSTS011			No	12	0.1
Total Credits: 1ST SEMESTER					60	0.5
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
General Chemistry 1B	SCHM012		SMTH012	Yes	12	0.1
General Physics 1B	SPHS012		SMTH012	Yes	12	0.1
Health Education and Life Competencies II	SHEL012			No	12	0.1
Set Theory, Linear and Abstract Algebra	SMTH012			Yes	12	0.1
2ND SEMESTER ELECTIVE MODULES						
Animal Biology or Plant Biology	SZOO012 or SBOT012			Yes	12	0.1
Computational Mathematics and Modelling	SAPM012			No	12	0.1
Data Organization and Artificial Intelligence	SCSC012			No	12	0.1
Earth Surface Processes	SGLA012	SGLA011		Yes	12	0.1
Introduction to Statistical Inference	SSTS012			No	12	0.1
Total Credits: 2ND SEMESTER					60	0.5
Total Credits: YEAR LEVEL 1					120	1
YEAR LEVEL 2						
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Classical Mechanics	SPHA021	SPHS011 SPHB000 SMTH011 SMTB000	SMTA021	Yes	10	0.1
Inorganic Chemistry 2	SCHB021	SCHM012		Yes	10	0.1

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
		SCHB000				
Modern Physics	SPHB021	SPHS011 SPHB000 SMTH011 SMTB000	SMTA021	Yes	10	0.1
Organic Chemistry 2	SCHA021	SCHM011 SCHM012 SCHB000		Yes	10	0.1
1ST SEMESTER ELECTIVE MODULES						
Advanced Calculus	SMTA021			Yes	20	0.2
Essential Biomolecules, Signal Transduction	SBIA021	SCHM011 SCHM012		Yes	20	0.2
Sedimentology and Structural Geology	SGLA021	SGLA012		Yes	20	0.2
Total Credits: 1ST SEMESTER					60	0.6
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						
Analytical Chemistry 2	SCHA022	SCHM011 SCHB000 SMTH011 SMTH012 SMTB000		Yes	10	0.1
Electrodynamics and Electronics	SPHA022	SPHS012 SPHB000 SMTB000 SMTH012		Yes	10	0.1
Physical Chemistry 2	SCHB022	SCHM011		Yes	10	0.1

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
		SCHB000 SMTH011 SMTH012 SMTB000				
Waves and Physical Optics	SPHB022	SPHS012 SPHB000 SMTB000 SMTH012		Yes	10	0.1
2ND SEMESTER ELECTIVE MODULES						
Bioenergetics and Intermediary Metabolisms	SBIA022	SCHM011 SCHM012	SBIA021	Yes	20	0.2
Igneous and Metamorphic Petrology	SGLA022	SGLA021		Yes	20	0.2
Linear Algebra	SMTA022			Yes	20	0.2
Total Credits: 2ND SEMESTER					60	0.6
Total Credits: YEAR LEVEL 2					120	1.2
YEAR LEVEL 3						
1ST SEMESTER						
1ST SEMESTER ELECTIVE MODULES						
Geology Of Southern Africa	SGLA031	SGLA022		Yes	32	0.3
Inorganic Chemistry 3	SCHB031	SCHB021		Yes	16	0.1
Physical Chemistry 3	SCHA031	SCHB022		Yes	16	0.1
Proteins, Enzymes and Biochemical Techniques	SBIA031	SBIA021 SBIA022		Yes	32	0.3

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
Quantum Mechanics	SPHA031	SPHA021		Yes	16	0.1
Thermodynamics and Statistical Mechanics	SPHB031	SPHB021		Yes	16	0.1
Total Credits: 1ST SEMESTER					64	0.6
2ND SEMESTER						
2ND SEMESTER ELECTIVE MODULES						
Analytical Chemistry 3	SCHA032	SCHA022		Yes	16	0.1
Economic Geology II	SGLA032			Yes	32	0.3
Electrodynamics And Electronics	SPHB032	SPHB022	SMTA022	Yes	16	0.1
Gene Structure, Function, Molecular Biology	SMIB032	SBIA021 SBIA022		Yes	32	0.3
Organic Chemistry 3	SCHB032	SCHA021		Yes	16	0.1
Solid State Physics	SPHA032	SPHA022	SMTA022	Yes	16	0.1
Total Credits: 2ND SEMESTER					64	0.6
Total Credits: YEAR LEVEL 3					128	1.2
Total Credits: BACHELOR OF SCIENCE					368	3.4

Bachelor of Science (Physical Sciences) Extended Curriculum Programme - BSCF01

CURRICULUM

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
YEAR LEVEL 1						
YEAR						
YEAR COMPULSORY MODULES						
Health Education And Life Competencies I	SHEL000			No	12	0.1
Introduction To General Chemistry 1A	SCHM000			Yes	24	0.1
Introduction To General Physics 1A	SPHS000			Yes	24	0.1
Introduction To Life Science Studies I	SBIO000			Yes	24	0.1
Pre-Calculus And Differential Calculus	SMTH000			Yes	24	0.1
Total Credits: YEAR					120	0.5
Total Credits: YEAR LEVEL 1					120	0.5
YEAR LEVEL 2						
YEAR						
YEAR COMPULSORY MODULES						
Health Education And Life Competencies II	SHEB000	SHEL000		No	24	0.1
Introduction To General Chemistry	SCHB000	SCHM000		Yes	24	0.1
Introduction To General Physics 1B	SPHB000	SPHS000		Yes	24	0.1
Introduction To Life Science Studies II	SBIB000	SBIO000		Yes	24	0.1
Introductory Algebra And Integral Calculus	SMTB000	SMTH000		Yes	24	0.1
Total Credits: YEAR					120	0.5
Total Credits: YEAR LEVEL 2					120	0.5
YEAR LEVEL 3						

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Classical Mechanics	SPHA021	SPHS011		Yes	10	0.1
		SPHB000				
		SMTH011				
		SMTB000				
Inorganic Chemistry 2	SCHB021	SCHM012		Yes	10	0.1
		SCHB000				
Modern Physics	SPHB021	SPHS011		Yes	10	0.1
		SPHB000				
		SMTH011				
		SMTB000				
Organic Chemistry 2	SCHA021	SCHM012		Yes	10	0.1
		SCHB000				
1ST SEMESTER ELECTIVE MODULES						
Advanced Calculus	SMTA021			Yes	20	0.2
Essential Biomolecules, Signal Transduction	SBIA021			Yes	20	0.2
Total Credits: 1ST SEMESTER					60	0.6
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						
Analytical Chemistry 2	SCHA022	SCHM011		Yes	10	0.1
		SCHB000				
Electrodynamics and Electronics	SPHA022	SPHS012		Yes	10	0.1
		SPHB000				
		SMTH012				
		SMTB000				
Physical Chemistry 2	SCHB022	SCHM011		Yes	10	0.1

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
		SCHM000 SMTH011 SMTH012				
Waves And Physical Optics	SPHB022	SPHS012 SPHB000 SMTB000 SMTH012		Yes	10	0.1
2ND SEMESTER ELECTIVE MODULES						
Bioenergetics and Intermediary Metabolisms	SBIA022			Yes	20	0.2
Linear Algebra	SMTA022			Yes	20	0.2
Total Credits: 2ND SEMESTER					60	0.6
Total Credits: YEAR LEVEL 3					120	1.2
YEAR LEVEL 4						
1ST SEMESTER						
1ST SEMESTER ELECTIVE MODULES						
Inorganic Chemistry 3	SCHB031	SCHB021		Yes	16	0.1
Physical Chemistry 3	SCHA031	SCHB022		Yes	16	0.1
Proteins, Enzymes and Biochemical Techniques	SBIA031			Yes	32	0.3
Quantum Mechanics	SPHA031	SPHA021	SMTA021	Yes	16	0.1
Thermodynamics and Statistical Mechanics	SPHB031	SPHB021	SMTA021	Yes	16	0.1
Total Credits: 1ST SEMESTER					64	0.5
2ND SEMESTER						
2ND SEMESTER ELECTIVE MODULES						
Analytical Chemistry 3	SCHA032	SCHA022		Yes	16	0.1

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
Electrodynamics and Electronics	SPHB032	SPHB022	SMTA022	Yes	16	0.1
Gene Structure, Function, Molecular Biology	SMIB032			Yes	32	0.3
Organic Chemistry 3	SCHB032	SCHA021		Yes	16	0.1
Solid State Physics	SPHA032	SPHA022	SMTA022	Yes	16	0.1
Total Credits: 2ND SEMESTER					64	0.5
Total Credits: YEAR LEVEL 4					128	1
Total Credits: BACHELOR OF SCIENCE					488	3

Bachelor of Science (Geology) - BSG01

CURRICULUM

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
YEAR LEVEL 1						
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Differential And Integral Calculus	SMTH011			Yes	12	0.1
General Chemistry 1A	SCHM011		SMTH011	Yes	12	0.1
General Physics 1A	SPHS011		SMTH011	Yes	12	0.1
Introduction to Geology	SGLA011				12	0.1
Health Education And Life Competencies I	SHEL011			No	12	0.1

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
Total Credits: 1ST SEMESTER					60	0.5
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						
General Chemistry 1B	SCHM012			Yes	12	0.1
General Physics 1B	SPHS012			Yes	12	0.1
Earth Surface Processes	SGLA012	SGLA011		Yes	12	0.1
Health Education And Life Competencies li	SHEL012			No	12	0.1
Set Theory, Linear And Abstract Algebra	SMTH012			Yes	12	0.1
Total Credits: 2ND SEMESTER					60	0.5
Total Credits: YEAR LEVEL 1					120	1
YEAR LEVEL 2						
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Sedimentology and Structural Geology	SGLA021	SGLA012		Yes	20	0.2
Mineralogy and Mineral Optics	SGLB021	SGLA012		Yes	20	0.2
1ST SEMESTER ELECTIVE MODULES						
Organic Chemistry 2	SCHA021	SCHM012		Yes	10	0.1
Inorganic Chemistry 2	SCHB021	SCHM012		Yes	10	0.1
Classical Mechanics	SPHA021	SPHS011		Yes	10	0.1
Modern Physics	SPHB021	SPHS011		Yes	10	0.1
Total Credits: 1ST SEMESTER					60	0.6
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
Igneous and Metamorphic Petrology	SGLA022	SGLA021		Yes	20	0.2
Economic Geology I	SGLB022	SGLB021		Yes	20	0.2
2ND SEMESTER ELECTIVE MODULES						
Analytical Chemistry 2	SCHA022	SCHM011 SMTH011 SMTH012		Yes	10	0.1
Physical Chemistry 2	SCHB022	SMTH011 SMTH012 SCHM011		Yes	10	0.1
Electrodynamics and Electronics	SPHA022	SPHS012		Yes	10	0.1
Waves and Physical Optics	SPHB022	SPHS012		Yes	10	0.1
Total Credits: 2ND SEMESTER					60	0.6
Total Credits: YEAR LEVEL 2					120	1.2
YEAR LEVEL 3						
1ST SEMESTER						
1ST SEMESTER COMPULSORY MODULES						
Geology Of Southern Africa	SGLA031	SGLA022		Yes	32	0.3
Geophysics and Geochemistry	SGLB031	SGLB022		Yes	32	0.3
Total Credits: 1ST SEMESTER					64	0.6
2ND SEMESTER						
2ND SEMESTER COMPULSORY MODULES						
Economic Geology II	SGLA032	SGLA031		Yes	32	0.3
Environmental Geology	SGLB032	SGLB031		Yes	32	0.3

Module Name	Code	Prerequisite	Co-requisite	Possible Major	Credits	
					SAQA	HEMIS
and Geohydrology						
Total Credits: 2ND SEMESTER					64	0.6
Total Credits: YEAR LEVEL 3					128	1.2
Total Credits: BACHELOR OF SCIENCE					368	3.4