APPROVED

Bachelor of Science in Applied Bioscience (2019)

Health and Science

Programme Short Title	B.Sc. Applied Bioscience				
Programme Code	DK_SAPBI_7	**Mode of Delivery**	Full Time On Campus	**No. of Semesters**	6
Semesters Per Stage	2	**NFQ Level**	7	**Programme Credits**	180
Language of Instruction	English				
Field of Study	0510 - Science				
Educational Aim of Programme	The aim of this programme is to provide students with a broad basis in modern biological science with a strong foundation in biochemistry, microbiology, molecular biology, cell biology and ecology. They will learn how this knowledge is integrated into a range of applied biosciences such as biotechnology, genetic engineering, industrial microbiology and pollution control. Students will also develop competence in quality management systems, knowledge of regulatory issues and personal skills appropriate to a professional scientist. In summary, graduates from this programme will be competent biologists with a broad background of knowledge in addition to the analytical, practical and interpersonal skills appropriate for a modern-day science graduate.				
External Code	**Code:**				
Programme Extra Information	Special Regulation: For modules with Practical and/or Final Examination components, a minimum mark of 30% must be achieved in each component.				

Programme Learning Outcomes (PLOs)

On successful completion of this programme the learner should be able to :

#	Description
PLO1	Have a good level of knowledge of: - a broadly based scientific core; - mathematics; - theory and understanding in a particular sub-field of science.
PLO2	Have a good level of knowledge in: - the terminology, nomenclature and/or classification systems appropriate to the subject area; - subject specific theories, concepts and principles; - methods for acquiring, processing, interpreting and presenting subject-specific information; - the identification, definition and resolution of routine problems; - relevant legal, quality and regulatory frameworks: - current issues of concern to society and an appreciation of the ethical issues involved.
PLO3	Have a good level of knowledge in some aspect of the defining elements of the subject area as a result of individual study or research.
PLO4	Apply knowledge and understanding to address familiar problems in a scientific work setting.
PLO5	Employ data analysing, synthesising and summarising skills in a scientific work setting.
PLO6	Source, interpret and apply appropriate and referenced literature from a specific scientific area.
PLO7	Work independently within defined time boundaries.
PLO8	Operate a broad range of laboratory and other relevant equipment safely.
PLO9	Apply numerical and statistical analysis skills.
PLO10	Maintain detailed records of activities.
PLO11	Communicate Scientific information in a variety of forms to specialist audiences.
PLO12	Identify and implement solutions to problems relating to scientific processes in a logical manner.
PLO13	Appreciate the views of others.
PLO14	Participate fully in the day-to-day operations of a scientific industry, or other scientific work setting.
PLO15	Make decisions in relation to a controlled environment.
PLO16	Test simple hypotheses.
PLO17	Appreciate the limits of knowledge in a scientific area.
PLO18	Analyse and generate data, diagnose and trouble-shoot technical problems and contribute to their resolution in a range of structured settings.
PLO19	Use scientific skills to accurately perform tasks.
PLO20	Behave professionally in a range of structured work settings.
PLO21	Take direction, accept criticism and use feed-back to enhance own performance.
PLO22	Participate in a structured team environment across a range of scientific disciplines.

PLO23	Be self-directed in terms of time, motivation and planning and be self-aware and be open and sensitive to others.
PLO24	Work with significant autonomy within allocated responsibility.
PLO25	Work individually on complex tasks, exercise independent technical judgement, develop a personal work plan and accept responsibility for own work.
PLO26	Demonstrate an ability for autonomous, independent learning,identify gaps in personal knowledge, understanding and skills and identify appropriate means of gaining these attributes.
PLO27	Evince a commitment to continuing education and lifelong learning and take appropriate action to remain aware of industrial, regulatory and societal change, which will impact on chosen specialisation.
PLO28	Discuss relevant scientific issues in a social, cultural and economic context and promote science and technology to the general public.
PLO29	Demonstrate and awareness of current issues of concern to society and an appreciate of the ethical issues involved.

Semester Schedules

Stage 1 / Semester 1

Mandatory

Module Code	Title
BIOL S8Z01	Biology
CHEM S7Z04	Fundamental Chemistry
HLSTS8Z01	Health and Safety and Academic Skills
MATH S7Z01	Mathematics 1
PHYS S7Z03	Physics Through PBL 1

Stage 1 / Semester 2

Mandatory

Module Code	Title
CHEM S7Z05	Chemistry
MATH S7Z02	Mathematics 2
PHYS S7Z04	Physics Through PBL 2

Stage 2 / Semester 1

Mandatory

Module Code	Title
INST S7Z02	Analytical Science
CHEM S8Z01	Biochemistry
CHEM S7003	Introduction to Organic Chemistry

BIOL S8Z03	**Microbiology 1**

Stage 2 / Semester 2

Mandatory	
Module Code	**Title**
ENVR S7008	**Applied Ecology**
BIOL S8Z04	**Microbiology 2**
BIOL S8Z02	**Molecular Biology**
DATA S7Z01	**Statistics and Data Analysis**

Stage 3 / Semester 1

Mandatory	
Module Code	**Title**
MCBL S7001	**Applied Microbiology**
BITC S7011	**Biotechnology**
PHAR S8015	**Regulatory Affairs and GMP Compliance**

Elective	
Module Code	**Title**
ENVR S8016	**Aquatic Sciences**
PHAR S7Z01	**Immunology**

Stage 3 / Semester 2

Mandatory	
Module Code	**Title**
BIOL S8002	**Bioanalytical Science**
PHAR S8016	**Biopharmaceutical Therapeutics**
PROJ S8010	**Literature Research Project**
QUAL S7Z01	**Quality Management**