

# **BACHELOR OF SCIENCE (HONOURS) (BIOLOGY)**



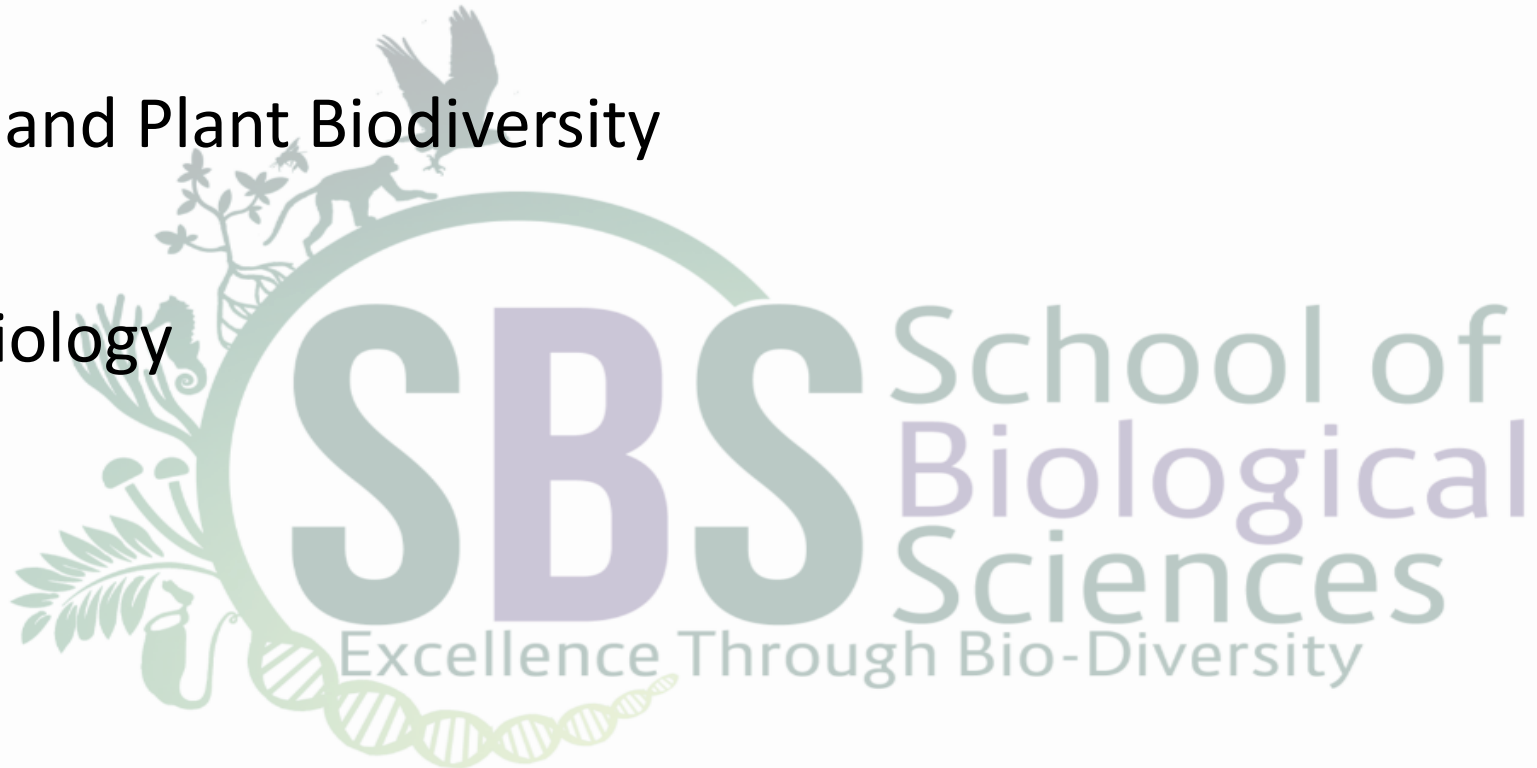
# INTRODUCTION

The School of Biological Sciences offers Pure Science and Applied Science degree programmes, which was developed to provide students with knowledge and skills in basic and applied biological sciences. For Pure Science programme, 3 major or thrust areas are offered, namely, Plant Biology, Animal Biology and Microbiology. As for Applied Science, the following thrust areas are offered, Agrobiolgy, Aquatic Biology, Biology and Management of Vector and Parasite, Biotechnology and Environmental Biology. For both programmes, the students are required to complete basic core courses and core courses of the thrust areas (details of the courses are provided in the Bachelor of Science and Bachelor of Applied Science guide book).

Pure Science and Applied Science courses emphasise on the experimental, theoretical and field work skills necessary for students to seek employment in biological science fields as well as other related fields.

# AREAS OF SPECIALISATION/MAJOR

- Animal and Plant Biodiversity
- Microbiology



# PROGRAMME EDUCATION OBJECTIVES (PEO)

The objectives of programmes are:

**PEO1:**

To produce graduates who are knowledgeable and understand the basic concepts in biology.

**PEO2:**

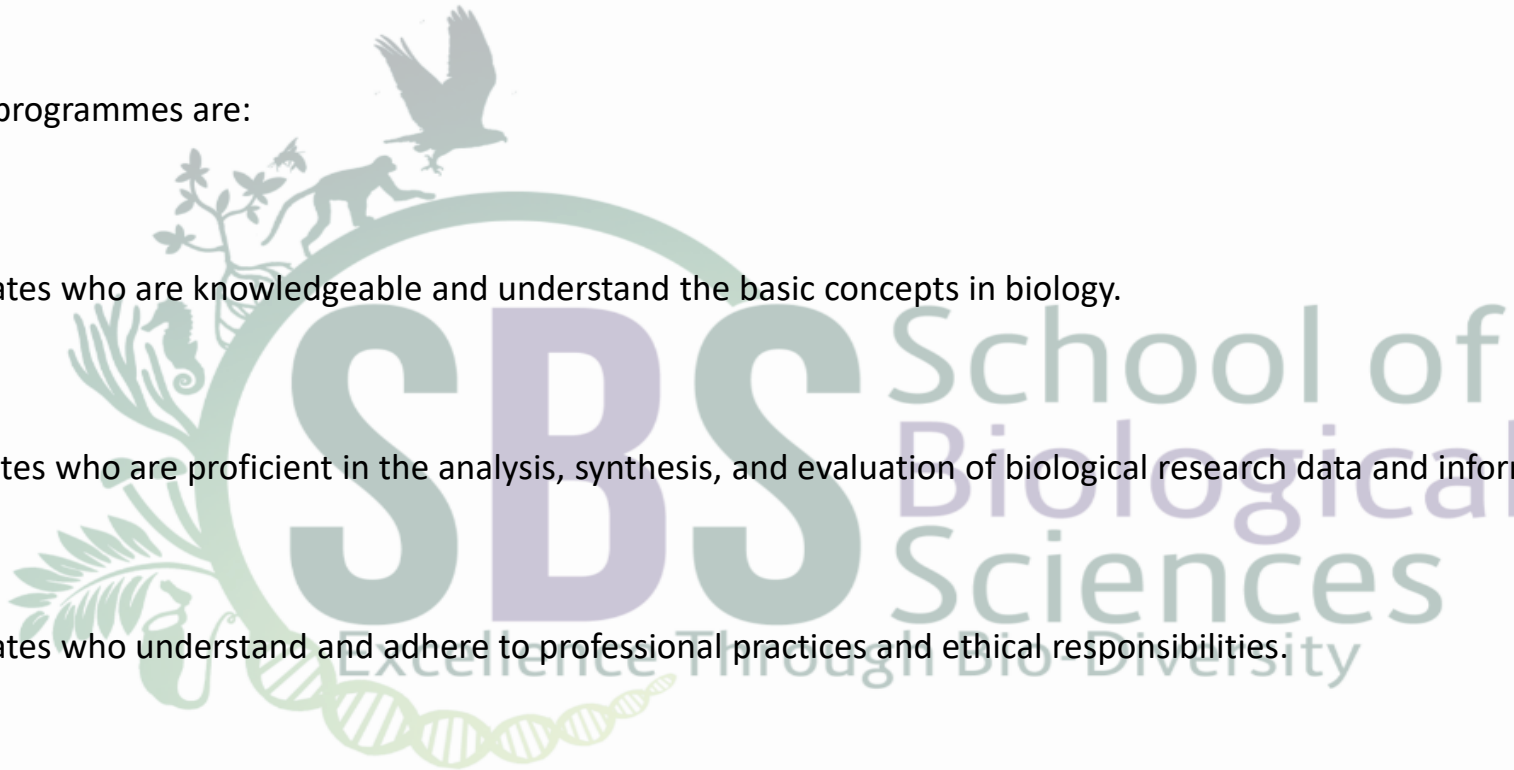
To prepare graduates who are proficient in the analysis, synthesis, and evaluation of biological research data and information objectively.

**PEO3:**

To produce graduates who understand and adhere to professional practices and ethical responsibilities.

**PEO4:**

To produce graduates who possess and practice the spirit of cooperation and teamwork in the implementation and coordination of projects related to biological disciplines.



# PROGRAMME LEARNING OUTCOMES (PLO)

## - BASIC CORE COURSES

Upon the completion of Basic Core Courses for Bachelor of Science (Honours), the students will be able to:

PLO1	Knowledge	acquire knowledge and understanding of basic and advanced concepts in the field of Biological Sciences.	PLO7	Life Long Learning & Information Management	manage current information and recognize the importance of lifelong learning (Lifelong Education and Information Management) in mastering knowledge and developing knowledge related to Biological Sciences.
PLO2	Practical Skills	demonstrate extensive technical skills in the field of Biological Sciences (technical skills, practical skills, and psychomotor).	PLO8	Managerial & Entrepreneurial Skills	acquire the foundation of entrepreneurial knowledge for career development (Management and Entrepreneurship Skills) in the development and business of entrepreneurship related to the field of Biological Sciences.
PLO3	Cognitive Skills - Scientific Methods, Critical Thinking & Problem Solving Skills	identify and solve issues and problems critically, creatively, and innovatively (thinking skills and scientific approach) in matters related to Biological Sciences.	PLO9	Leadership, Autonomy and Responsibility	function effectively as an individual and in a team with the ability to lead (Leadership Skills) in any organization as well as private planning.
PLO4	Communication Skills	acquire effective communication skills in all areas of life (communication skills) to convey information about Biological Sciences.	PLO10	Digital Skills	demonstrate the basics of digital skills for career development (Digital Skills) that cover all aspects of Biological Sciences.
PLO5	Interpersonal Skills - Social Skills, Team Working and Responsibility	demonstrate a sense of responsibility and master of social skills in matters related to Biological Sciences.	PLO11	Numeracy Skills	demonstrate numeracy skills in all aspects of life (Numeracy), especially in areas related to Biological Sciences.
PLO6	Ethics and Professionalism	understand and manage the industry related to Biological Sciences professionally and ethically (Professionalism, Values, Attitude, and Ethics).			

# PROGRAMME LEARNING OUTCOMES (PLO)

## - REQUIRED CORE COURSES

Upon the completion of Bachelor of Science (Honours) with major in *Animal and Plant Biodiversity* or *Microbiology*, the students will be able to:

PLO1	Knowledge	<ul style="list-style-type: none"> <li>attain knowledge and understanding of basic and advanced concepts in the field of Animal and Plant Biodiversity or Microbiology.</li> </ul>	PLO6	Ethics and Professionalism	<ul style="list-style-type: none"> <li>demonstrates a high commitment on ethical issues as well as curiosity, tenacity, seriousness, and confidence as an expert in the field of Animal and Plant Biodiversity or Microbiology.</li> </ul>
PLO2	Practical Skills	<ul style="list-style-type: none"> <li>design, plan, conduct, and properly record the results of experiments in the field of Animal and Plant Biodiversity or Microbiology using scientific methods.</li> <li>employ instrumentations, procedures, and techniques in the field of Animal and Plant Biodiversity or Microbiology.</li> <li>perform experiments in the field of Animal and Plant Biodiversity or Microbiology safely, accurately, and effectively.</li> </ul>	PLO7	Life Long Learning & Information Management	<ul style="list-style-type: none"> <li>use knowledge gained for self-development and continuous improvement.</li> <li>demonstrate the ability to use various retrieval methods to obtain information on issues related to field of Animal and Plant Biodiversity or Microbiology.</li> <li>identify the relationship between the field of Animal and Plant Biodiversity or Microbiology and other disciplines, the applications and impact in society.</li> </ul>
PLO3	Cognitive Skills - Scientific Methods, Critical Thinking & Problem Solving Skills	<ul style="list-style-type: none"> <li>interpret data and express the results in clearly written laboratory reports and in oral presentations.</li> <li>scientifically and critically identify, analyse, evaluate, solve issues creatively and innovatively in the field of Animal and Plant Biodiversity or Microbiology based on sustainable management practices.</li> </ul>	PLO8	Managerial & Entrepreneurial Skills	<ul style="list-style-type: none"> <li>apply basic knowledge and principles of management and entrepreneurship related to the field of Animal and Plant Biodiversity or Microbiology.</li> </ul>
PLO4	Communication Skills	<ul style="list-style-type: none"> <li>express ideas effectively and thoroughly, and foster ongoing discussion, both orally and in writing.</li> </ul>	PLO9	Leadership, Autonomy and Responsibility	<ul style="list-style-type: none"> <li>practicing autonomy, self-reliance, and leadership in the field of Animal and Plant Biodiversity or Microbiology.</li> </ul>
PLO5	Interpersonal Skills - Social Skills, Team Working and Responsibility	<ul style="list-style-type: none"> <li>demonstrate the ability to work effective with peers and in teams.</li> <li>execute the tasks given responsibly.</li> <li>perform multi-tasking and function in multidisciplinary teams and communicate effectively.</li> </ul>	PLO10	Digital Skills	<ul style="list-style-type: none"> <li>demonstrate the ability to use a variety of digital technologies and appropriate software to enhance learning.</li> </ul>
			PLO11	Numeracy Skills	<ul style="list-style-type: none"> <li>demonstrate skills in analysing, evaluating, and interpreting numerical and graphical data in learning using various quantitative and qualitative approaches.</li> </ul>