

BSc. in

BIOINFORMATICS



Bioinformatics is an up-and-coming field that combines modern sciences of informatics, mathematics, and statistics with the science of biology, chemistry, pharmacy, medicine, biotechnology, and food technology.

Bioinformatics deals with the rapidly growing quantity of data in life science, with implications;

- in biology to understand the fundamental processes and regulations
- in health to understand the disease process
- in pharmacology to develop new drugs
- in ecology to understand the biodiversity.

CAREER OPPORTUNITIES

Students trained in this field can find jobs in bioinformatics/IT companies, as data scientists, information analysts, or software engineers. The scope of bioinformatics is vast as it has applications in agriculture, drug design, material design, toxicity testing, among others.

PROGRAM INFORMATION

B.Sc. in Bioinformatics will be launched for the first time in Nepal in August 2022. The total duration is eight semesters spread over 4 years. The cost of the program is Rs. 8,40,000 to be paid in 16 installments. Scholarships are provided to needy and meritorious students. We provide top-class facilities including access to High-Performance Computer, a supercomputing facility hosted at KU.

Professor

Dr. Janardan Lamichhane (Dean, School of Science)
Dr. Subodh K. Upadhyaya (Head of the Department)

Associate Professor

Dr. Sangita Shakya
Dr. Dhurva P. Gauchan
Dr. Bhupal G. Shrestha

Assistant Professor

Dr. Parash Mani Timilsina
Ms. Ashna Dhakal
Dr. Hitesh K. Bhattarai
Mr. Simon K. Shrestha
Dr. Amol Dahal

Teaching Assistant

Mr. Samrat Paudel

Lab & Office Staff

Mr. Sunil Maharjan
Mrs. Pramila K.C.
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For Detailed Information

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KATHMANDU UNIVERSITY

"Quality Education for Leadership"



Two Decades of Biotechnology in Nepal

PROGRAM INFORMATION 2022

DEPARTMENT OF BIOTECHNOLOGY

SCHOOL OF SCIENCE

Bachelor of Technology in
BIOTECHNOLOGY

Bachelor of Science in
BIOINFORMATICS

Kathmandu University (KU), established in November 1991 as an autonomous not-for-profit, non-governmental institution, is dedicated to maintaining high standards of academic excellence. Most of the technical and professional programs introduced at KU are the first of their kind in the country.

BIOTECHNOLOGY AT KU

The subject of biotechnology deals with novel and cutting-edge research conducted by mankind to understand living beings at a molecular level. The subject entails unravelling the genetic and protein code and manipulating these codes to better mankind.

The Department of Biotechnology, the first of its kind in Nepal, was established in 2003 to supply manpower to establish biotechnology industries and to conduct research and professional activities in the area. The graduates from the department of biotechnology can conduct research and carry out professional activities in fields ranging from agriculture to medicine.

The preparation at the department facilitates students to thrive under a dynamic and interdisciplinary approach in national and international settings. The curriculum has been designed to provide a solid theoretical and practical foundation on principles underlying modern biology. The rigorous training provided at the department includes hands-on laboratory training.



KEY FEATURES OF THE PROGRAM

- ✦ Project work and internship during the final year,
- ✦ Four years program compatible with international standards,
- ✦ Regular tutorial classes,
- ✦ Field trips and industrial tours,
- ✦ A foundation of laboratory skills with theoretical knowledge.

CAREER OPPORTUNITIES

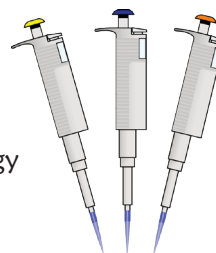
- ✦ In-campus job placement as teaching and research assistant,
- ✦ Employment in industries like chemicals, pharmaceuticals, food and beverages, agriculture, forensics, disease and diagnosis, environmental protection bodies,
- ✦ Prepare students for Masters or Doctoral Levels,
- ✦ Entrepreneurship opportunities.

DURATION OF THE PROGRAM

The total duration of the program is four years. Each year consists of two semesters. The academic year usually starts in August.

MAJOR COURSES

- ✦ Recombinant DNA Technology
- ✦ Molecular Biology
- ✦ Industrial Biotechnology
- ✦ Bioinformatics
- ✦ Plant Biotechnology
- ✦ Animal Cell Culture Technology
- ✦ Microbial Biotechnology
- ✦ Immunotechnology
- ✦ Environmental Biotechnology



ADMISSION ELIGIBILITY

10+2 level (or equivalent) with a minimum aggregate GPA of 2.0 (50% in percentage scale) and grade C individually in each course. OR, Minimum 50% in aggregate and minimum 50% in aggregate of PCM or PCB.

COST OF PROGRAM AND SCHOLARSHIP

The total cost of the program is Rs. 8,72,000 which can be paid in 16 installments.

- ✦ Each semester GPA merit based full tuition fee waiver scholarships per 30 students intake capacity,
- ✦ Need-based partial tuition fee waiver scholarships as per KU provision,
- ✦ Loan scholarship.

FACILITIES

- ✦ Well-equipped laboratories of microbiology, molecular biology, animal cell culture, plant tissue culture, immunology, biochemistry, bioinformatics, bio-process, and food technology,
- ✦ Central library with a collection of over 70,000 books and national and international journals,
- ✦ 24/7 access to laboratories for students,
- ✦ Academic counseling and project supervision,
- ✦ Canteen, sports and various clubs for extracurricular activities,
- ✦ On-campus accommodation facility for national and international students.

STUDENT ACTIVITIES

Our students are involved in various extra-curricular activities through departmental club, KUBiC (Kathmandu University Biotechnology Creatives).

Various events carried out by KUBiC are:

- ✦ Conferences and workshops
- ✦ All Nepal Bio-tech Cup
- ✦ DNA Day Celebration
- ✦ Bio-tech Meet
- ✦ Departmental Bio-tech Cup

