

VALUE ADDED CERTIFICATION COURSE (2024)

“Basics of Bioinformatics”



18th Sept - 1st Oct. 2024

Convener: Prof. (Dr.) Preeti Mehta
Course Coordinator: Ms. Chetana Suvalka

Organized by

**School of Basic and Applied Science,
Sangam University, Bhilwara**

Sangam University has been established by Badrilal Soni Charitable trust and promoted by Sangam Group of Industries with the mission to make world class higher education affordable and accessible to all sections of society. The vision of our University is to become a centre of excellence for holistic development and global education by cultivating and nurturing young minds to transform into global leaders of the future. The University tries to provide a professional environment along with imbibing a sense of moral and human values. We are committed to bring forth an educational milieu which is tuned to the needs of global markets.

Founded in the year 2012, with state-of-the-art infrastructure and facilities, Sangam is built with the objective to become one of the best universities of Rajasthan. We meet the demands of this dynamic corporate and professional society.

Sangam is a student-centered university that empowers each individual to succeed. We offer an accessible, nurturing and student-focused educational experience to those who want to move ahead steadily towards personal or professional growth. Our diverse faculty maintains good association with students, mentoring them throughout their entire educational journey.



School of Basic and Applied Sciences

The mission of our Faculty of Applied Sciences is to provide a world-class education that prepares students for successful careers in their chosen fields. We aim to achieve this mission through a commitment to excellence in teaching, research, and innovation. Our vision is to be a leading institution in the field of applied sciences, known for our interdisciplinary approach to education and research, our strong partnerships with industry, and our commitment to diversity and inclusion. We strive to produce graduates who are highly skilled, adaptable, and equipped to make meaningful contributions to society.

Eligibility:

1. UG/PG in Life science or Pharmaceutical Sciences.
2. UG/PG Diploma or Degree in applied Health Science

Registration link:

<https://forms.gle/erdkEwuwGzVezFrR6>

Scan and Pay:
INR-150



Course Objectives:

- ❖ Explain the structure, function and regulation of different cells.
- ❖ Create and manage databases.
- ❖ Analyze large biological data sets.
- ❖ Proficiency in Computational Genomics and Proteomics data analysis using various tools relevant to Computational Biology.
- ❖ Conceptual understanding of systems biology that integrates parameter.
- ❖ Estimation, dynamic and constraint-based modelling of biological networks in the system.
- ❖ Concepts and skills in molecular biology to understand the biological process at the molecular level essential for Computational Biology
- ❖ Equip with the knowledge and skills required to apply genetic engineering techniques to a range of applications.
- ❖ Understand Mathematical concepts and apply skills relevant to Computational Biology.
- ❖ Develop skills to analyze bio sequence data.
- ❖ Gain practical knowledge for website design.
- ❖ Get programming language knowledge for industry.
- ❖ Knowledge in the field of machine learning.



S.No.	Course Content
1.	Introduction to Bioinformatics – Broad applications
2.	Biological Databases and file formats
3.	In silico PCR for Primer QC, Sequence Alignment & it's types (BLAST, FASTA, CLUSTALW)
4.	Next Generation Sequencing Basics
5.	Structural Biology – Protein composition, Predicting Secondary structure of protein
6.	Viewing protein structure in PyMol, Rasmol
7.	Computer Aided Drug Designing
8.	Ethical aspects related genomic data collection

Evaluation Method

Theory		Practical	
Test Papers	40%	Test/Viva	75%
Seminar Presentations	40%	Record	25%
Assignments	20%	-	

School of Basic and Applied Science



Patron

Prof. Karunesh Saxena
President Sangam
University



Co-Patron

Prof. Manas Ranjan Panigrahi
Pro- President Sangam
University



Covener

Prof. Preeti Mehta
Dean, SOBAS

Resource Persons



Dr. M.I. Siddiqi.
Professor, AcSIR &
Chief Scientist,
CSIR-CDRI,
Lucknow



Dr. Narotam Sharma
Scientist and Head,
DNA Labs,
Dehradun



**Dr. Tikam Chnad
Dakal**
Assistant
Professor, MLSU



Dr. Nilesh Maheswari
Asate ate Professor,
Sangam University,
Bhilwara

Course Co-ordinator



Ms. Chetana Suvalka
Assistant Professor,
Sangam University
Contact-9461724657

Email- chetana.suvalka@sangamuniversity.ac.in