

BIOPHYSICS



INTRODUCTION

Biophysics is the application of the principles of physics (the science that deals with matter and energy) to explain and explore the form and function of living things. The most familiar examples of the role of physics in biology are the use of lenses to correct visual defects and the use of X-rays to reveal the structure of bones.

Biophysics is an interdependent science discipline that employs unique methods of physics and physical chemistry to acquire knowledge on the biological systems present in our world. It applies the principles of Physics and Chemistry and the methods of Mathematical Analysis and Computer Modeling to understand how biological systems work. Biophysics explains biological function in terms of the molecular structures and their properties.

BRANCHES

- Molecular biophysics
- Radiation biophysics
- Physiological biophysics
- Mathematical and Theoretical biophysics
- Medical biophysics

SKILL SET

- **Science**- Using scientific rules and methods to solve problems.
- **Critical Thinking** - Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Reading Comprehension** - Understanding written sentences and paragraphs in work related documents.
- **Active Listening** - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Writing** - Communicating effectively in writing as appropriate for the needs of the audience.



- **Speaking** - Talking to others to convey information effectively.
- **Active Learning** - Understanding the implications of new information for both current and future problem-solving and decision-making.

ELIGIBILITY

Eligibility for those who intend to pursue biophysics career is that they must basically have an undergraduate degree with Physics, Biology and Chemistry. Some institutes also offer undergraduate programmes with special attention given to biophysics.

JOB PROSPECTS

- **Researcher**
- **Scientist** - Biophysics is a vibrant scientific field where scientists from many fields including math, chemistry, physics, engineering, pharmacology, and materials sciences, use their skills to explore and develop new tools for understanding how biology—all life—works
- **Applied biophysicist** mostly work in laboratories to conduct their research. They collect, analyze, and interpret research. ... They use instruments and scientific machines that can be altered and gives them the ability to change research variables
- **Clinical biophysicist** is responsible for testing patient samples and interpreting the results for medical staff. They work as part of a hospital medical team that is responsible for investigating and diagnosing patient illnesses designing experiments to test theories about how chemicals function in the body
- **Forensic biophysicist** inspect crime scenes for potential sources of evidence such as blood, saliva, and hair, and then they analyze the specimens in a laboratory, focusing on DNA analysis. They write up their findings in technical reports and are called upon to testify in court. Forensic biologists typically work for government agencies.
- **Lecturer.**



TOP COLLEGES

➤ **Panjab University, Chandigarh**

Course: B.Sc. in Biophysics

Eligibility Criteria: 10+2 in Science Stream with 50% marks.

Selection Process:

- PUCET
- Merit based upon: Qualifying Examination (+2): 25% and Entrance Test: 75%

Some Good Colleges for Masters in Bio-Physics are as Follows:

- AIIMS, Delhi
- Government Institute of Science, Aurangabad
- University in Kalyani, West Bengal
- Mahatma Gandhi University, Kerala
- University of Madras, Chennai

Disclaimer: The information provided here is best to our knowledge. It is highly recommended that you should cross-check the source of information through the specific Colleges and Institutes. WonderSkool (WS Education Pvt Ltd) is in no way responsible for the decisions made solely on the basis of this document.