



## **MASTER OF SCIENCE - PHYSICS**

## **PROGRAMME OVERVIEW**

Physics is one of the oldest academic disciplines. Not only is it the fundamental to all basic natural sciences, it has also been significant and influential through advances in its understanding that have translated into new technologies.

M Sc. Physics is a synonym to Master of Science in Physics. The course provides a thorough analytical background to basic and modern foundations of conventional physics coupled with an insight into areas such as Material Science & Electronics, which are offered as a subject of specialization.

### **Programme Name**

Master of Science

### **Programme Code**

044

### **Course Code and Name**

4404 - M. Sc in Physics

### **Degree Awarded**

Master of Science

### **Duration of the Programme**

2 years, 4 semesters

### **Total Credits**

100

### **Eligibility**

The minimum qualification required to apply is a bachelor's degree in the respective discipline from a recognized university

### **Medium of Instruction / Examination**

English

### **Study Campus**

#### **Center for Post Graduate Studies**

Jayanagar 3<sup>rd</sup> Block, Bangalore

### **Programme Timings**

8:30 am - 4:30 pm (Mon-Fri)

8:30 am - 1:00 pm (Sat)

## Course Advisor

Prof. Vasudevan

**M:** +91 99453 13217

## Examinations & Assessments

1. Internal tests
2. Assignments
3. Seminar presentation
4. Class tests
5. Preparatory theory and Practical examination
6. End term theory and Practical examination

## Curriculum

### Semester 1

Classical Mechanics

Quantum Mechanics - I

Electronics (General)

Mathematical Methods of Physics

**Learning labs:** General Practical - I

Electronics (General) Practical

### Semester 2

Statistical Mechanics

Quantum Mechanics - II

Electrodynamics

Computational Methods in Physics

**Learning Labs:** General Practical - II

Computer Exercises

### Semester 3

Condensed Matter Physics

Nuclear and Particle Physics

Materials Science (Special) – I (or) Electronics (Special) - I

**Elective:** Atomic, Molecular and Resonance Spectroscopy (or) X Ray Crystallography (or)

Spectroscopic Techniques

**Learning Labs:** Modern Physics

Materials Science (Special) Practical - I (or) Electronics (Special) Practical - I

### Semester 4

Astrophysics and Relativity

Materials Science (Special) - II (or) Electronics (Special) – II

Materials Science (Special) - III (or) Electronics (Special) - III

**Elective:** Laser Physics and Applications (or) Physics of Nano Materials (or) Structure, Spectra and Properties of Bio Molecules / Molecular Physics

**Learning Labs:** Materials Science(Special) Practical - II or Electronics (Special) Practical - II  
Project and Dissertation Viva-Voce

### **CAREER OPPORTUNITIES**

M.Sc. in Physics degree will help to develop robust, high-level analytical and problem-solving skills that are widely applicable and highly valued by a diverse range of employers including those in education, finance, engineering, computing and management.

After the successful completion of programme, can find a challenging career in the government, education, health, energy and medical sectors.