

# Discover Career Opportunities after a Degree in Physics

## Introduction

Physics is all around us. We use Physics on day to day basis. An ancient and vast field of science, Physics encompasses studies about the gigantic bodies such as the stars and planets and smallest bodies such as atoms and electrons. Physics is a fundamental science where physicists study matter, its motion and behaviour through space and time, and other entities related to energy and force. It also includes studies about heat, light, sound, electricity, magnetism, mechanics and atoms.

Physics has existed since the beginning of times. The ancient Greeks were the founders of early Physics as some of the physicists such as Aristotle, Socrates and Plato explored the world around them. The modern-day Physics came into existence in the 1500-1600s because of some renowned physicists such as Copernicus, Galileo and Newton. Many revolutionary inventions such as revolving of earth, gravitational force of the earth, etc. were made during this period.

## What do you get to learn during a Physics degree?

Physics is a gateway into a wide range of sciences and its sub disciplines. Physics mainly based on experiments, measurement and mathematical calculations. Hence, the students opting for Physics degree study the topics such as particle physics, quantum mechanics, quantum optics and electrodynamics and also sub disciplines such as astronomy, cosmology and string theory.

Physics not only generates fundamental knowledge required for further technological advancements but also provides trained personnel to get benefitted from scientific discoveries. It helps us to get better understanding of the subjects which are of substantial importance to other people.

## What do you get in the classroom learning for Physics?

The Physics course will bring in copious amount of experiments and research work which also means there would be plentiful theoretical learning and complex mathematics. It will emphasize on fundamentals of Physics as also the

modern concepts such as Quantum Mechanics, Classical Mechanics, Thermodynamics, Electrodynamics, Electricity, Statistical Mechanics and Magnetism Optics and waves.

The Department of Physics at MES AGC was established in 1945 and is one of the oldest departments in the college. The Post- graduate program was started in 1993 and since 2012 the department has become a recognized research centre for Ph.D.

The undergraduate degree program helps to lay a strong foundation which can further help to pursue the Master's degree in Physics. The main aim of the courses is to create a solid ground in Physics studies which would open up ample opportunities for the students to carry out individual research work and development an all-round experience and experience a steep growth in their careers.

General Features are:

- High calibre, experienced and extremely supporting Teaching staff
- Department has separate laboratories for F.Y.B.Sc., S.Y.B.Sc., T.Y.B.Sc. and M.Sc.
- At T.Y.B.Sc. level, department runs Materials Science, Physics of Nano-materials, Lasers and Astrophysics as elective subjects
- Well-developed Laboratory for M.Sc. and Research (Ph.D.)
- M.Sc. course takes in to account, state-of-art in Physics and its application at all levels
- M.Sc. course has a high potential with an appropriate balance of theory, experiments and project work
- Department has specialization in Materials Science, Nano Technology and Thin films
- Thin film synthesis and characterization, Sensor testing laboratory, VSM.
- Investigational and exploratory learning on the basis of presentations and Guest Lectures
- Visits to research institutes e.g. BARC etc.

**Skills and competencies required to hone a bright career**

The study of Physics requires an inquisitive mind and a keen interest in mathematics. It also requires tremendous focus, patience, willingness to hard and a 'don't give up' attitude.

Following are some skills required to become a knowledgeable Physicist and pursue a vibrant career in physics:

1. Problem solving skill
2. Analytical skill
3. Versatile and adaptable
4. Ability to learn and understand
5. Ability to conduct researches, gather information and develop theories
6. Knowledge about the usage of computer and ability to prepare technical reports
7. Mathematical analysing and modelling skills
8. Ability to make decisions and manage time

The Physics curriculum is designed to help students acquire skills to think scientifically, critically and creatively as also communicate ideas and views about physics related topics.

### **Career prospects in Physics**

When we think about career prospects or job opportunities in Physics, it can be a gratifying career as science school teacher to a far-reaching career in NASA or ISRO as a space researcher. Hence, while discussing the careers in Physics, sky is the limit would be an understatement!

A Bachelor's degree in Physics can prepare you for a wide range of careers like mechanical engineering, sound engineering, data analyst, technical author and other development and research activities.

A Master's degree can help candidates pursue careers in more intense fields such as healthcare, climatology, meteorology, aeronautics, metallurgy, Geophysics, Nanotechnology, Astronomy, Radiation protection, Clinical science or medical physics, etc. Build basis for competitive and professional examinations.

As a physicist, your job can be noble, as well as very lucrative.

## **Summary**

Modern world would have been a very different place without Physicists. Studying Physics is like going on an exciting adventure that not only inspires people to carry out more researches but also broadens the horizons of knowledge about Nature. It is a challenging field of studies which keeps you on your toes. Hence, study of Physics is a way to appreciate modern technology and use it optimally for the development of society.