



Central University of Himachal Pradesh

Department of Physics and Astronomical Science

Shahpur Campus



M. Sc. Physics

Programme Specific Outcomes

2021

Semester-Wise Distribution of Courses:

Semester	Type of Courses	Credits	Total Credits
I	Major Courses	08	20
	Minor Courses	04	
	IDC Major course	02	
	Vocational/Skill	04	
	IKS	02	
II	Major Courses	12	20
	Minor Courses	02	
	IDC Minor Course	02	
	Vocational/Skill	02	
	IKS	02	
III	Major Courses	04	20
	Minor Courses	04	
	Vocational/Skill	04	
	Research based advanced courses	08	
IV	Major Courses	04	20
	Minor Courses	04	
	Vocational/Skill	04	
	Research Work	08	
Total			80

M. Sc. Physics

Programme Specific Outcomes

Master in Physics (M. Sc. Physics) programme at Department of Physics and Astronomical Science, Central University of Himachal Pradesh is designed in such a way to not only acquaint the students with the latest theoretical and experimental skills by imparting highly advanced courses but, also, give them a chance to develop and identify the interdisciplinary nature of the subject. Also, to make them know and understand the traditional, indigenous knowledge of science, in general, the department is offering courses based on Indian Knowledge System (IKS). This, truly, is in consonance with the National Education Policy (NEP 2020). Along with conventional and fundamental courses, the student has an opportunity to learn highly advanced special courses during the second year of the programme. They are encouraged to undergo a rigorous training during the finalization of the M. Sc. dissertation which is based on the recent research problems giving them an opportunity to get familiar with the frontline research areas. Students who wish to pursue higher studies in the subject are, thus, well equipped to choose their branch of study in future. Physics provides the foundation for the modern technology and is the training ground for the mind. During the programme the students will get hands-on experience through well equipped labs making them ready to go on to work in applied fields. In addition, it will develop, in the students, logical thinking and critical attitude which may help them in the related field(s).

Based on these sublime initiatives, on completion of programme, the post graduates will:

- Understanding the basic concepts of physics, particularly, concepts in classical mechanics, quantum mechanics, statistical mechanics, condensed matter physics, Astronomy and physics at high energy frontier to appreciate how diverse phenomena observed in nature follow from a small set of fundamental laws through logical and mathematical reasoning.
- Learn to carry out experiments in basic as well as certain advanced areas of physics such as nuclear physics, condensed matter physics, nanoscience, lasers and electronics.
- Understand the basic concepts of certain sub fields such as nuclear and high energy physics, atomic and molecular physics, solid state physics, plasma physics, astrophysics and general theory of relativity.

- Gain hands on experience to work in applied fields.
- Viewing physics as a training ground for the mind developing a critical attitude and the faculty of logical reasoning that can be applied to diverse fields.
- Develop an understanding of the indigenous studies and contribution of our traditional knowledge in science, in general.
- Develop analytical and numerical skills helping them to pursue higher studies in physics and allied areas.
- Would have research oriented experiences by executing theoretical and experimental projects in the final semester under the supervision of the concerned faculty. They will, also, have firsthand experience on how to write a scientific reports and present results which will be imperative for their research career in the field.
- The programme opens up plethora of career opportunity in higher education whether it is teaching or in research organization.

In general, the programme provides an opportunity to the student to learn the underlying laws responsible for the observed dynamics from smallest to the largest length scales.