



Vanita Vishram Women's University

(1st Women's University of Gujarat)

Athwagate, Surat, Gujarat, India-395001

(Recognized under the Provisions of Gujarat Private Universities Act, 2009)

M.Sc. in Physics

Introduction of the Course:

Master of Science (M.Sc.) in Physics is one of the most preferred academic degree courses after graduating with Physics as a major subject. The programme is designed to cater the students for a research career in academia or industry by introducing advanced ideas and techniques that are applicable in a wide range of research areas while emphasizing the underlying concepts of Physics. M.Sc. in Physics programme is initiated under Vanita Vishram Women's University (VVWU) which is the First-ever Women's University of Gujarat proposed under Public-Private-Partnership with the Government of Gujarat under the Gujarat Private Universities Act, 2009. VVWU is committed to provide quality education and employment opportunities to its girl students through its revamped curriculum and pedagogy.

Program Specific Objectives (PSOs):

- The students are expected to understand the fundamentals, principles, physical concepts and recent developments in the subject area.
- The student can understand the role of Physics in society and has a background to consider ethical problems.
- To create an ample amount of prospects for the students in various fields like academics, industry, research organization, consultancy, defense and entrepreneurial pursuit at national and international level.
- To prepare students to take up challenges as a researcher in diverse areas of theoretical and experimental physics.
- Create the environment to perform the high end research through Dissertation work.
- To develop the scientific research approach among students, in defining problems, execution through analytical methods, and systematic presentation of results keeping in line with the research ethics through dissertations.

Program Specific Outcomes (PSOs):

- Have proficiency in various mathematical concepts for the proper understanding of application in all physical systems especially in Nuclear physics, Statistical Mechanics, Spectroscopy, Electronics, Electromagnetism, Materials Science, Classical and Quantum Mechanics.
- Have fundamental and advanced level knowledge in various subjects of physics such as advanced mathematical physics, classical mechanics, quantum mechanics, statistical mechanics, nuclear and particle physics, solid state physics, materials science and electronics.
- Learn the laboratory skills, enabling measurements in a Physics Laboratory and analysis of the measurements to draw valid conclusions.
- Have fundamental and advanced level knowledge in physics so as to handle the computational tools and scientific software.

Minimum Eligibility:

Graduate in Physics

Duration of the Program:

Two Year

Fee Structure:

Semester 1 | Rs.32450/-

Semester 2 | Rs.28300/-

Salient Features of the Program/Course:

- Highly qualified and experienced faculty members having doctorate degrees from renowned institutes.
- Comprehensive coverage of core Physics disciplines to prepare for national and competitive exams like CSIR UGC NET, GATE, etc.
- Sophisticated Laboratories for experimental research.
- In accordance with the to-be-implemented NEP (National Education Policy, 2020).
- Interdisciplinary as well as multidisciplinary learning approach.
- Practical-oriented, skill-based & vocation-based program.
- Greater exposure to internship, hands-on training, project work, field work, presentation etc.
- Mode of teaching shall be hybrid (Online + Offline)
- Curriculum is designed to enhance the employability.

Course Structure:

Semester 1	Semester 2
Mathematical Methods Of Physics	Quantum Mechanics-I
Classical Mechanics	Statistical Mechanics
Computational Physics	Electrodynamics And Plasma Physics
Electronics	Introduction To Nano Science And Nano Technology Or Medical Physics
Physics Experiments Lab-I	Physics Experiments Lab-III
Physics Experiments Lab-II	Physics Experiments Lab-IV

Job Opportunities:

- Candidates can apply for the post of Junior Research Fellow, Research Scientist, Medical Physicist and Radiation Physicist.
- Candidates can apply for Bachelor of Education which is very essential to become physics teacher secondary and higher secondary school.
- Some of the prominent national organizations, that one can aim for, include DRDO, ISRO, PRL, IPR, TIFR, BARC, NPL, SAC, Indira Gandhi Centre for Atomic Research Centre, Variable Energy Cyclotron Centre, NTPC, ONGC, BHEL and National Atmospheric Research Laboratory of Department of Space.
- Candidates can opt for higher studies like M.Phil. and Ph.D. which are essential qualifications for the appointment as an Assistant Professor in various university/institutes across the India and globe.
- Candidates can have career opportunities in foreign electronics and manufacturing companies, healthcare sector and can also apply in highly reputed internationally recognized research organizations and space agencies like NASA, ESA etc.
- Opportunities in IT companies such as Infosys, Wipro and CTS and industries related to Energy Plants and Automobile Industry.
- Opportunities in Airlines, Railways, Airforce, Navy and Army.
- Opportunities in public sector banks for the post of Probationary Officers.

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