MANIPAL UNIVERSITY
JAIPUR

NAAC A+ Grade
with 3.28 Score

nirf
Rankings 2025
University: 58 | Overall 98
Engineering: 58 | Management: 81
Architecture: 21 | Law: 32

# Master of Science
# (M.Sc.) PHYSICS

## Admission
## 2026-27

## About the program

The **2-Year Master of Science (Physics) Program** of the Physics Department, Manipal University Jaipur, is designed to give equal emphasis to classroom teaching and laboratory training. Students have the option to specialize in advanced areas such as Solid State Physics, Electronics, Nuclear Physics, Nanotechnology, and High Energy Physics. In the last (fourth) semester, students are required to undertake a research project in frontier areas, which prepares them for a career in research. The courses are in accordance with the UGC Model Curriculum. The unique course structure blends the best aspects of contemporary and applied physics to prepare postgraduate students who are well versed in science and technology.

More about the Department
Scan the QR Code

jaipur.manipal.edu

admissions@jaipur.manipal.edu

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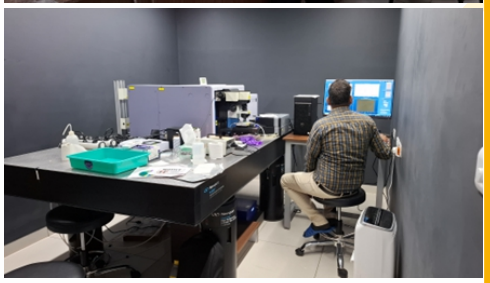
## Key Highlights of the Program

- **Comprehensive Curriculum:** The program offers a well-structured curriculum with a strong foundation in theoretical and experimental physics, supported by balanced classroom and laboratory training.
- **Specializations:** Students can specialize in areas such as Quantum Mechanics, Space and Astrophysics, Condensed Matter Physics, Nuclear Physics, and Plasma Physics, depending on their interests.
- **Experienced Faculty:** Faculty members are highly qualified and experienced, providing students with quality education and strong academic guidance.
- **Advanced Laboratories:** Laboratories are well-equipped with modern apparatus and instruments to facilitate hands-on experimental learning.
- **Research Opportunities:** The program promotes research activities, offering students opportunities to undertake research projects and publish in peer-reviewed journals.
- **Interdisciplinary Approach:** Students benefit from interdisciplinary studies by collaborating with other departments within the university.
- **Industry Collaborations:** Partnerships with industry provide exposure to real-world applications of physics and potential internship opportunities.
- **Seminars and Workshops:** Regular seminars, workshops, and guest lectures by experts from academia and industry enrich the learning experience.
- **Career Development:** The program prepares students for diverse career paths, including research positions, teaching roles, and opportunities in industries such as technology, healthcare, and aerospace.
- **Placement Assistance:** The university offers placement assistance and career guidance to help students transition smoothly into the workforce or pursue higher studies.
- **Networking Opportunities:** Students have opportunities to connect with peers, alumni, and professionals through conferences, symposiums, and industry interactions.

## Unique Research and Lab Facilities

- Adept faculty members having teaching as well as research experience and are associated with a lot of research activities, often in collaboration with eminent scientists from different parts of the globe.
- Thrust areas of the Department are Material Science, including Bio nanomaterials and Nanotechnology.
- State-of-the-art laboratory facility to support synthesis and characterization of advanced Nanomaterials. The material synthesis and processing equipment includes dip coater, spincoater, microwave synthesizer, ball mill, annealing furnace, ultra-highspeed centrifuge etc.
- The department has acquired a glancing angle deposition (GLAD) system for the thermal deposition of 1-D nanomaterials.
- Major characterization system includes a source measure unit for IV measurement of nanodevices, a high precision Hall measurement system and surface plasmon resonance (SPR) measurement system for measuring plasmonic effects in nanomaterials
- The department has accesses to most of the modern systems of material characterization like Field effect Microscope (FESEM), X-ray Diffraction (XRD), UV-Visible Spectroscopy, Photoluminescence (PL) spectroscopy, Thermo-Gravimetric Analysis (TGA), Fourier Transform Infrared (FTIR) spectroscopy etc.





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## National and International Collaborations

**National**

- Dr. Sandeep Chowdhary, Dept of Chemistry, MNIT, Jaipur
- Dr Mahesh Chahar, Dept. of Electrical Engineering, IIT Jodhpur
- Dr Dileep Kumar, Scientist E, UGC DAE CSR, Indore
- Prof. S. N. Dolia, Department of Physics, University of Rajasthan, Jaipur
- Dr. Gaurav Saxena, Government Women Engineering college, Ajmer
- Dr. Balram Tripathi, S. S. Jain Subodh PG College Jaipur
- Dr. Rama Kanwar, Asst Prof., Dept of Chemistry, Mohan Lal Sukhadiya University, Udaipur
- Dr. Mukul Gupta, Scientist D, UGC-DAE Indore
- Dr. P.D. Babu, Scientist D, UGC-DAE Mumbai
- Prof. Ashok Rao, Department of Physics, MIT, Manipal Academy of Higher Education
- Dr. Kiran Subhedar, National Physical Laboratory, Delhi
- Dr. S. P. Singh, National Physical Laboratory, Delhi
- Dr. Prem Pal, Indian Institute of Technology Hyderabad
- Centre for Research in Nanoscience and Nanotechnology, Salt Lake Campus, University of Calcutta
- Dr. Aniruddha Mondal, Department of Physics, NIT Durgapur
- Dr. Kiran Shankar Hazra, INST Mohali
- Prof. Anil Kumar Gourishetty, Department of Physics, IIT Roorkee.
- Prof. T. Venkatappa Rao, Department of Physics, NIT Warangal.
- Dr. Subhendu Ray Chowdhary, Isotope and Radiation Application Division, Bhabha Atomic Research Centre, Mumbai.
- Prof Ayon Bhattacharjee, National Institute Of technology Meghalaya
- Sandip P Choudhary, Amity University Jaipur.
- Prof. M.S Janaki, Saha Institute of Nuclear Physics, Kolkata, India.
- Prof. P. K. Raina, IIT Ropar.
- Dr. Jitendra Tripathi, HoD-Physics, IPS academy, Indore
- Department of Physics, University of Gour Banga, WB
- Department of Physics, Manipal Institute of Technology
- Department of Physics, NIT Meghalaya
- Department of Physics, NIT Durgapur
- Department of Physics, Banaras Hindu University, Varanasi, India
- Department of Physics, University of Allahabad, Prayagraj, India
- Bharathiar University- Nanoscience & Technology Department, India
- Inter University Accelerator Centre, New Delhi, India
- UGC-DAE Consortium for Scientific Research, Indore
- Indian Institute of Technology, Bombay

**International**

- Prof. Gunther Andersson, Flinders University Adelaide, Australia
- Prof. R D K Misra, The University of Texas at El Paso, USA
- Przemysław Kula PhD, DSc, Faculty of Advanced Technologies and Chemistry, Institute of Chemistry, Military University of Technology, Warsaw – Poland.
- Prof. S.I Mukhin, National University of Science and Technology, Moscow, Russia.
- Dr. S. Seidov, National University of Science and Technology, Moscow, Russia.
- Theoretical Physics and Quantum Technologies Department, NUST "MISIS," Moscow 119049, Russia
- Prof. Q. Jiang, Tsung Dao Lee Institute, Shanghai, China.

## Career Opportunities

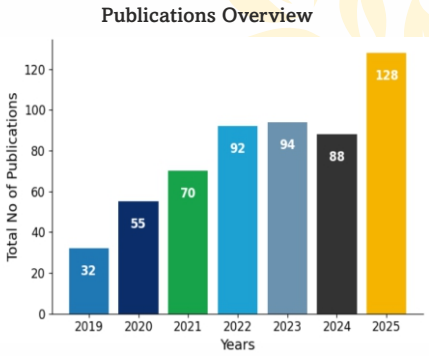
**Research & Development**
Pursue cutting-edge research in areas like Nuclear Physics, Particle Physics, Material Sciences, Astrophysics, or Quantum Computing

**Data Science & Analyst**
Utilize your strong scientific and analytical skills to interpret and manage big data.

**Academia & Education**
Become a professor, lecturer, or researcher in reputed institutions worldwide and contribute to shaping the next generation of physicists.

**Industrial Roles**
Work on designing medical devices, optimizing energy solutions, or improving materials for engineering applications.

## Research Highlights

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## Placement Records/ Higher studies.

- 2024 — **Guru Kishor**: Project Assistant, IGCAR Kalpakkam
- 2022 — **Anshu Soni**: Technical Analyst, Rightpoint India Digital Pvt. Ltd
- 2022 — **Jagdish Parihar**: Albany Medical Health System, New York, USA
- 2022 — **Govind Chandrawat**: Visiting faculty at DAVV, Indore
- 2022 — **Ashok Kumawat**: Assistant Professor, JECRC University
- 2022 — **Mukesh Saran**: Assistant Professor, Department of Health science, University of People, California, USA
- 2022 — **Ashok Kumawat**: Dept of Physics, MUJ, Assistant Professor, Jayoti Vidyapith, Jaipur
- 2016 — **Kshitij Govil**: YORK University, CANADA, MS Student in Canada, Cleared GRE & TOELF with good percentile
- 2018 — **G. L. Vyas**: Scientist at IPR, Gandhinagar

## Prominent Recruiters

- Aviation Industry
- Colleges/ Universities
- Construction Firms
- Cryptography
- Space & Astronomy
- Agricultural Research Services
- Engineering Firms
- Hospitals
- Research Laboratories

## Testimonials

Department of Physics, Manipal University Jaipur provides a great learning environment with supportive faculty and plenty of opportunities to grow, both academically and personally. The academic culture encourages curiosity and innovation, making it an ideal place to explore new ideas and build lasting connections.

Rohan S. Pandhre

Naveen Suthar

This degree has pushed me beyond my limits and taught me the true meaning of perseverance. I'm thankful for my peers and professors who have supported me along the way.

## Eligibility Criteria

Candidate must have passed BSc degree from recognized University / Institution or equivalent qualification as recognized by Association of Indian Universities (AIU) or other competent body with minimum of 55% marks in aggregate.

## Fee structure

| | Tuition fee (p.a.) | Registration Fee (One Time) | Caution Deposit Refundable (One Time) | Total Course Fees (including Caution Deposit) |
|---|---|---|---|---|
| Indian (INR) | 1,09,000 | 10,000 | 10,000 | 2,38,000 |
| International (USD) | 2650 | 300 | | 5600 |

## Scholarships

- MUJ Graduate Concession
- GATE Stipend
- Merit Scholarships
- TAPMI Scholarships

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## Curriculum (Only Scheme)

| First Semester | | | | | |
|---|---|---|---|---|---|
| **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| PY6101 | Atomic, Molecular & Laser Physics | 2 | 1 | 0 | 3 |
| PY6102 | Mathematical Physics | 3 | 1 | 0 | 4 |
| PY6103 | Quantum Mechanics | 3 | 1 | 0 | 4 |
| PY6104 | Electronics | 3 | 1 | 0 | 4 |
| PY6105 | Classical Mechanics | 3 | 1 | 0 | 4 |
| PY6130 | Electronics Lab | 0 | 0 | 6 | 3 |
| Total | | **14** | **5** | **6** | **22** |
| **Total Contact Hours (L+T+P)** | | **25** | | | |

| Second Semester | | | | | |
|---|---|---|---|---|---|
| **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| PY6201 | Solid State Physics | 3 | 1 | 0 | 4 |
| PY6202 | Nuclear and Particle Physics | 3 | 1 | 0 | 4 |
| MA6205 | Research Methodology & Technical Writing | 2 | 1 | 0 | 3 |
| PY6203 | Electrodynamics | 2 | 1 | 0 | 3 |
| PY6230 | Solid State Physics Lab | 0 | 0 | 6 | 3 |
| PY6231 | Nuclear Physics Lab | 0 | 0 | 6 | 3 |
| PY6232 | Spectroscopy Lab | 0 | 0 | 4 | 2 |
| **Total** | | **10** | **4** | **16** | **22** |
| **Total Contact Hours (L+T+P)** | | **30** | | | |

| Third Semester | | | | | |
|---|---|---|---|---|---|
| **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| PY7101 | Statistical Mechanics | 3 | 1 | 0 | 4 |
| PY7102 | Advanced Quantum Mechanics | 3 | 1 | 0 | 4 |
| PY7103 | Numerical Methods and Programming | 3 | 1 | 0 | 4 |
| PY7170 | Seminar | 0 | 0 | 4 | 2 |
| PY7130 | Computer Lab | 0 | 0 | 4 | 2 |
| DSE | Discipline Specific Elective | 3 | 1 | 0 | 4 |
| Total | | **12** | **4** | **8** | **20** |
| **Total Contact Hours** | | **24** | | | |

| Fourth Semester | | | | | |
|---|---|---|---|---|---|
| **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| PY7270 | Major Project | 0 | 0 | 0 | 16 |
| **Total Contact Hours** | | **35** | | | |

| Discipline Specific Electives (DSE) | |
|---|---|
| **Course Code** | **Course Name** |
| PY7140 | Fundamentals of Nanoscience |
| PY7141 | Radiation Physics |





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## Admission Process

Application form initiated through our website
**admissions.jaipur.manipal.edu**

Applicants must submit a completed application form with relevant documents within the due date.

Our counsellors will guide candidates through the admission process, which is as per regulatory requirements.

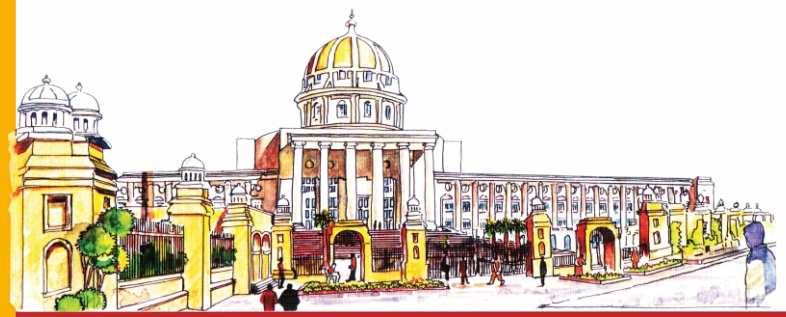
FAQ

Please visit the FAQ section on our website to know more about the admission process.

## Admission Team Contact Details

**1800 1020 128**

## Hostel Details



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*(University Under Section 2(f) of the UGC Act)*

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