**M.Sc Physics Course**

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| Course Number | Title | Type  |
| SEMESTER I |
| PHYS 401 | Classical Mechanics | Core  |
| PHYS 402 | Quantum Mechanics-I | Core  |
| PHYS 403 | Electromagnetic Theory & Electrodynamics | Core |
| PHYS 404 | Nuclear & Particle Physics | Core  |
| PHYS 405/410 | Laboratory Course I/II | Core  |
| SEMESTER II |
| PHYS 406 | Quantum Mechanics-II | Core  |
| PHYS 407 | Statistical Mechanics | Core  |
| PHYS 408 | Radiation Theory | Core  |
| PHYS 409 | Atomic & Molecular Physics | Core  |
| PHYS 405/410 | Laboratory Course I/II | Core  |
| SEMESTER III |
| Experimental Modules |
| Module A- Part I |  |  |
| PHYS 511 | Physics at Nanoscale-I(Theory) | Optional  |
| PHYS 512 | Nanomaterials Lab-I(Lab) | Optional  |
| Module B-Part I |  |  |
| PHYS 513 | Electronics-I(Theory) | Optional  |
| PHYS 514 | Advanced Electronics Lab-I (Lab ) | Optional  |
| Module C-Part I |  |  |
| PHYS 515 | Solid State Physics-I(Theory) | Optional  |
| PHYS 516 | Advanced Solid State Physics Lab-I(Lab) | Optional  |
| Module D-Part I |  |  |
| PHYS 517 | Nuclear Physics-I(Theory ) | Optional  |
| PHYS 518 | Advanced Nuclear Physics Lab-I(Lab) | Optional |
| Module E-Part I |  |  |
| PHYS 519 | Laser & Spectroscopy-I(Theory) | Optional  |
| PHYS 520 | Advanced Laser & Spectroscopy Lab-I(Lab ) | Optional |
| Theory Papers  |
| PHYS 551 | Particle Physics-I | Optional  |
| PHYS 552 | Field Theory & Quantum Electrodynamics-I | Optional  |
| PHYS 553 | Advanced Solid State Theory-I | Optional  |
| PHYS 554 | Plasma Physics-I | Optional  |
| PHYS 555 | Astronomy & Astrophysics-I | Optional  |
| PHYS 556 | General Theory of Relativity & Cosmology-I | Optional  |
| PHYS 557 | Mathematical Physics | Optional  |
| PHYS 558 | Complex Systems & Networks | Optional  |
| PHYS 559 | Experimental High Energy Physics | Optional  |
| PHYS 560 | Interdisciplinary Course-1 | Optional  |
| PHYS 561 | Interdisciplinary Course-2 | Optional  |
| PHYS 501 | Computer Programming | Core |
| SEMSESTER IV |
| Experimental Modules |
| Module A- Part II |  |  |
| PHYS 531 | Physics at Nanoscale-I I (Theory) | Optional  |
| PHYS 532 | Nanomaterials Lab-II (Lab ) | Optional |
| Module B-Part II |  |  |
| PHYS 533 | Electronics-II (Theory) | Optional  |
| PHYS 534 | Advanced Electronics Lab-II (Lab ) | Optional |
| Module C-Part II |  |  |
| PHYS 535 | Solid State Physics-II (Theory) | Optional  |
| PHYS 536 | Advanced Solid State Physics Lab-II (Lab) | Optional |
| Module D-Part II |  |  |
| PHYS 537 | Nuclear Physics-II (Theory) | Optional  |
| PHYS 538 | Advanced Nuclear Physics Lab-II (Lab) | Optional |
| Module E-Part II |  |  |
| PHYS 539 | Laser & Spectroscopy-II (Theory) | Optional  |
| PHYS 540 | Advanced Laser & Spectroscopy Lab-II (Lab) | Optional |
| Theory Papers |
| PHYS 571 | Particle Physics-II | Optional  |
| PHYS 572 | Field Theory & Quantum Electrodynamics-II | Optional  |
| PHYS 573 | Advanced Solid State Theory-II | Optional  |
| PHYS 574 | Plasma Physics-II | Optional  |
| PHYS 575 | Astronomy & Astrophysics-II | Optional  |
| PHYS 576 | General Theory of Relativity & Cosmology-II | Optional  |
| PHYS 577 | Non Linear Dynamics | Optional  |
| PHYS 578 | Introduction to String Theory | Optional  |
| PHYS 579 | Observational Astronomy Lab | Optional  |
| PHYS 580 | Advanced Numerical Techniques | Optional  |
| PHYS 581 | Interdisciplinary Course-3 | Optional  |
| PHYS 582 | Interdisciplinary Course-4 | Optional  |