भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान पुणे

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH PUNE

IISER PUNE An Autonomous Institution of the Ministry of Education, Government of India

Invitation for

Placement Cycle 2024 - 2025

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About IISER Pune

The Indian Institute of Science Education and Research Pune is a premier institute dedicated to research and teaching in the basic sciences. It was established in 2006 by the Ministry of Human Resource Development (renamed Ministry of Education in August 2020). In 2012, it was declared as an Institute of National Importance by an Act of Parliament. As a unique initiative in science education in India, IISER aims to be a science institution of the highest calibre devoted to both teaching and research in an integrated manner, with state-of-the-art research and high-quality education, thus nurturing both curiosity and creativity.

We dedicate ourselves to learn, teach and serve society through excellence, in education, research, and public service, create learning and a working environment based on integrity, fairness, dignity, and professionalism to provide equal opportunities for all and to develop and encourage a sense of environmental responsibility.

Research at IISER Pune is carried out at the departments of Biology, Chemistry, Data Science, Earth and Climate Science, Humanities and Social Sciences, Mathematics, Physics and Science Education. Interdisciplinary research at the interface of one or more disciplines are also being actively pursued.

Biology

We investigate the inner workings of the living systems all the way from molecular to organismal to population level. We also explore how various life forms interact with their environment and how life, as we know it, may have come into being.

Chemistry

Be it chemical biology, materials research, nanoscience or energy science, our research programmes are connected through their core focus on understanding the chemical nature of the matter.

Data Science

A blend of statistics, mathematics and computer science, the data science at IISER Pune initiative brings together researchers who apply data-driven approaches to various areas of science and humanities.

Earth and Climate Science

Drawing strength from geology, geophysics, and climate modeling, our researchers try to understand the natural processes that shape the Earth in space and time.

Mathematics

With strong research groups in all core areas of mathematics, our faculty, students and postdocs are working on some very interesting math problems of recent times

Physics

We probe fundamental questions about the world we live in, such as the ultimate constituents of matter, the fundamental forces, the nature of quantum information and its potential role in communication and computation.

Humanities & Social Science

The dept brings to students a great breadth of understanding the world around them, imparts analytical skills, and also helps them engage more meaningfully within their cultural and individual contexts.

Science Education

The dept aims to explore, examine, and develop all aspects of science education such as pedagogic practices, curriculum creation, testing and assessment methods, and the philosophy and sociology of education specific to the Indian context at the school and university levels.

Academic Programmes at IISER Pune

IISER Pune offers research-focused training in a dynamic atmosphere. In addition to traditional classroom teaching, the institute fosters skills in scientific inquiry, problem-solving, communication, computational sciences, electronics, and instrumentation. Students engage in hands-on experiments in state-of-the-art labs, guided by top-notch faculty. The curriculum emphasizes innovation and supports interdisciplinary, research-oriented learning. The faculty is exceptionally accomplished, and the institution maintains a welcoming, proactive, and open-minded academic and administrative environment that inspires student motivation and new ideas.

BS - MS Programme

The five-year long programme leading to the dual BS and MS degrees.

Eligibility and Admission process:

Candidates should have passed 10+2 or equivalent level exam with science stream in the year of application or the year before.

In the previous years, there were three channels of admission (Kishore Vaigyanik Protsahan Yojana (KVPY) channel; Joint Entrance Examination (JEE-Advanced); and State and Central Boards Channel). Students appearing for placements in 2024-2025 cycle were admitted through one of these three channels.

From 2024 onwards, candidates will be admitted only through the State and Central Boards Channel wherein they would need to write an IISER Aptitude Test (IAT). IAT is the exclusive channel for admission in the IISERs.

Salient features of programme:

In the first three semesters, apart from training in all the areas of the basic sciences, students are also imparted sufficient grounding in computer programming, mathematical and modelling techniques, and practical laboratory skills. In the next five semesters, students can choose courses offered by one or more departments according to their interests and perspectives. The fifth year is reserved for a year-long research project or an internship, leading to a Master's thesis. The defining feature of education at IISER Pune is the opportunity to combine formal classroom learning with practical learning through research projects under the guidance of a chosen faculty. This allows the students to carry out meaningful, curiosity-driven research and problem solving at an early stage.

BS - MS Programme

Curriculum

The IISER Pune's BS-MS dual degree programme aims to integrate the conventional bachelor's and master's programmes into a more holistic science education experience, bringing together the biological, chemical, mathematical, physical and earth sciences.

The curriculum of the BS-MS degrees is built over 8 semesters of courses, including laboratory and lecture courses and semester-long projects, followed by 2 semesters of a Master's research project.

Course Plan: The table below outlines the number and nature of courses offered by different disciplines, and the number of courses that a typical BS-MS student would take during the five year program.

Discipline	Course Credit Plan							
	Sem 1	Sem 2	Sem 3		Sem 4		Sem 5 – 8	Sem 9 – 10
	C	C	C	E	C	E	E	
Biology	2	1	1	1	-	3	>= 5	Research project and MS thesis
Chemistry	1	2	1	1	-	3	>= 5	
Mathematics	1	2	1	1	-	3	>= 5	
Physics	2	1	1	1	-	3	>= 5	
Earth and Climate Science (ECS)	1	1	1	1	-	3	>= 5	
Humanities and Social Sciences (HSS)	-	1	1	-	-	-	>= 3	
Foundation courses	2	-	-	-	2	-	-	
Total courses for a student	9*	8	6	2	2	6	6-7 per semester	

C: Compulsory courses

E: Elective courses offered from which a student chooses an appropriate number as indicated in the last row

BS - MS Programme

Compulsory Courses: The table below outlines the compulsory courses in the first three semesters and the two compulsory courses in the 4th semester. Each course is worth 3 credits (3 contact hours per week).

Discipline	Sem 1	Sem 2	Sem 3	Sem 4
Biology	Introductory Biology	Introduction to Biomolecules	Ecology and Evolution	-
	Experiments in Biology	-	-	-
Chemistry	Principles of Organic Chemistry	Principles of Physical Chemistry	Principles of Inorganic Chemistry	-
	-	General Chemistry Practicals I	-	-
Mathematics	Calculus I	Calculus II	Introduction to Probability	-
	-	Linear Algebra	-	-
Physics	Introductory Mechanics	Introductory Electricity and Magnetism	Introductory Quantum Physics	-
	Physics Lab I	-	-	-
Earth and Climate Science	Evolution of Earth and Life	The Solid Earth	Introduction to Climate Science	-
Humanities and Social Sciences	-	Science and Society	Introduction to HSS	-
Foundation courses	Academic Communication Skills	-	-	Thermodynamics
	Introduction to Computing	-	-	Data Analysis
Total Number of Compulsory Courses	**9***	**8**	**6**	**2**

Major and Minor Requirements for Each Discipline : From the 4th to the 8th semesters, students may opt for a Major and a Minor in disciplines of their choice. The requirements of a Major / Minor in each discipline are specified below.

Biology

Major: At least 15 courses in Biology, of which a minimum of 8 need to be 4 credit courses.
Minor: At least 8 courses in Biology.

Biology Courses		
Semester	**Course Title**	**Number of credits**
4	Cell Biology	3
	Physiology	3
	Genetics	3
5 and 7	Advanced Molecular Biology	4
	Advanced Biochemistry I	4
	Bioinformatics	4
	Cellular Biophysics	4
	Chemical Ecology	4
	Developmental Biology	4
	Ecology I	4
	Neurobiology I	4
	Plant Biology	4
	Disease and Discourse	3
	Advanced Immunology	3
	Structural Biology	3
	Animal Physiology II	3
	Literature Review	3
6 and 8	Advanced Biochemistry II	4
	Animal Behaviour	4

Biology Courses		
Semester	**Course Title**	**Number of credits**
	Animal Physiology II	4
	Data Science	3
	Ecology II	4
	Evolution	3
	Introductory Immunology	4
	Mathematical and Computational Biology	4
	Microbiology	4
	Applied Plant Biology	3
	Cellular Biophysics II	3
	Genome Biology and Epigenetics	4
	Neurobiology II	3
	Physical Biochemistry	3
	Biology and Disease	4

BS - MS Programme

Chemistry

Major**:** At least 18 courses in Chemistry, of which the 12 below that are (*) marked are mandatory. The remaining 6 courses are as per the student's preference.
Minor**:** At least 6 courses in Chemistry. Of these, only one out of the three advanced labs will count.

Chemistry Courses		
Semester	**Course Title**	**Number of credits**
4	Principles of Organic Chemistry II – Organic Reactions, Transformations, and Stereochemistry*	3
	Analytical Chemistry – Separation Principles and Techniques*	2
	Fundamentals of Molecular Spectroscopy*#	4
5	Physical Organic Chemistry*	4
	Chemical Equilibrium and Kinetics*	4
	Main Group Chemistry*	4
	Advanced Organic Chemistry Lab*	3
	Symmetry and Group Theory	4
	Self-assembly in Chemistry	3
6	Organic Synthesis I*#	4
	Transition Metal Chemistry*	4
	Advanced Inorganic Chemistry Lab*	3
	Quantum Chemistry*	4
7	Advanced Physical Chemistry Lab*	3
	Polymer Chemistry	4
	Organic Synthesis-II	4
	Bioinorganic Chemistry	4
	Thermal and Photochemical Reactions	3
	Solid State Chemistry	3
	Statistical Thermodynamics	4

Chemistry Courses		
Semester	**Course Title**	**Number of credits**
	Bioorganic Chemistry and Chemical Biology	4
	Electrochemistry	3
	Fundamentals of Solution-State NMR Spectroscopy: Principles and Applications	4
8	Organic Spectroscopy	4
	Advanced Mocleular Spectroscopy	4
	Medicinal Chemistry	3
	Photochemistry and Photophysics	3
	Advanced Materials Science	3
	Organometallic Chemistry: Principles and Applications	3
	Organotransition Metal Catalysis and Beyond	3
	Chemistry for Alternative Energy	4
	Advanced Organic Synthesis – Asymmetric Synthesis	4

BS - MS Programme

Data Science

The Data Science discipline is currently not offering a major or a minor. Students can take the following courses in data science, and do their MS thesis in this discipline.

Data Science Courses		
Semester	**Course Title**	**Number of credits**
5	Applied Mathematical Methods	4
	Bioinformatics	4
	Numerical Analysis	4
	Parameter Estimation and Inverse Theory	3
6	Algorithms	4
	Bayesian theory and practice	4
	Causal inference	3
	Generalized Linear Models and their Applications	3
	Natural Language Processing	3
	Statistical Learning and Data Science	3
	Data Science	3
7	Mathematics of Network Algorithms	4
8	Stochastic Processes	3
	Time Series Analysis	3

BS - MS Programme

Earth and Climate Sciences

Major: Total of 18 ECS courses, including at least 10 of the core courses marked (*) in the table. The remaining 8 courses are as per the student's preference.

Minor**:** At least 6 ECS theory courses.

Earth and Climate Sciences Courses		
Semester	**Course Title**	**Number of credits**
1	Evolution of the Earth and life	3
2	The solid Earth	3
3	Introduction to Climate Science	3
4	Principles of Planetary Climate*	3
	Introductory seismology*	3
	Atmosphere and Ocean Chemistry	4
5	Applied Mathematical Methods*#	4
	Physics of Atmosphere*#	4
	Earth and Planetary Materials*#	3
	Sedimentology and Stratigraphy*#	3
	Numerical Computation*	4
	Structural Geology and Tectonics	4
6	Introduction to field technique*	3
	Geo and Cosmochemistry*#	4
	Geophysical Fluid Dynamics*#	4
	Geodynamics -1 *	4
	Analytical Geochemistry Lab*	3
	Physical Oceanography	4
	Signal Analysis & Information Theory	4
7	Parameter Estimation and Inverse Theory	3
	Exploration Seismology#	4

Earth and Climate Sciences Courses		
Semester	**Course Title**	**Number of credits**
	Atmosphere and Ocean Dynamics	4
	Tropical Meteorology#	4
	Hydrology	3
	Igneous and Metamorphic Petrology#	4
	Igneous and Metamorphic Petrology Lab	3
	Paleobiology#	4
	Sequence Stratigraphy#	3
	Sedimentology and Palaeontology Lab	3
8	Geoelectromagnetic Exploration#	4
	Exploration Seismology Lab	3
	Climate Modelling	4
	Satellite Data Analysis and Image Processing	4
	Indian Geology and Resources	4
	Isotope Geochemistry	3
	Geological Field Training (offered during vacation)	3

BS - MS Programme

Humanities and Social Sciences

Major: Not applicable

Minor: Minimum 6 courses in HSS as per the student's preference

Humanities and Social Sciences		
Semester	**Course Title**	**Number of credits**
5	Disasters and Society	3
	Economics and Public Policy	3
	Select Key Political Concepts	3
	Disease and Discourse	3
	History of India through 75 objects: Culture and Society	3
	Evolution of Cinema	3
	History of Architecture in India	3
	A Philosophy of the Constitution of India	3
	People, Culture, and Health	3
6	Development Studies: Concepts, Applications and Perspectives	3
	Political Thought in India: A Study of Select Texts	4
	Introduction to Political Ecology: Selected Approaches	3
	Science as Narrative in Literature and Cinema	4
	Development of Mathematical Astronomy in India	3
	Science-ing Sex in Modern India	3
	Introduction to Indian Writing in English: Prose and Poetry	3
	Understanding the Gandhian Tradition	3
	Introduction to Population Studies	3

BS - MS Programme

Mathematics

Major**:** Minimum 15 courses in Mathematics, of which the 9 below (* marked), are mandatory. The remaining 6 courses are as per the student's preference

Minor: Minimum 8 courses in Mathematics

Mathematics Courses		
Semester	**Course Title**	**Number of credits**
4	Group Theory *	3
	Real Analysis I *	3
	Discrete Structures*	3
5	Rings and Modules*	4
	Real Analysis II *	4
	Point Set Topology *	4
	Ordinary Differential Equations *	4
	Graph Theory *	4
	Statistical Inference	4
	Numerical Analysis	4
	Fields and Galois theory	4
6	Complex Analysis *	4
	Algebraic Number Theory	4
	Measure Theory and Integration	4
	Calculus on Manifolds	4
	Coding Theory	4
	Algorithms	4
7	Representation Theory	4
	Functional Analysis	4
	Differential Geometry and Lie Groups	4
	Algebraic Topology	4
	Probability	4

Mathematics Courses		
Semester	**Course Title**	**Number of credits**
8	Algebraic Geometry	4
	Fourier Analysis	4
	Riemannian Geometry	4
	Cryptography	4
	Stochastic Processes	4
	Partial Differential Equations	4

BS - MS Programme

Physics

Major: At least 18 courses in Physics, of which the 14 that are (*) marked in the table below are mandatory. The remaining 4 courses are as per the student's preference.

Minor: At least 8 courses in Physics

Physics Courses		
Semester	**Course Title**	**Number of credits**
4	Classical Mechanics*	3
	Thermal and Statistical Physics*	3
	Physics Lab II*	3
5	Electrodynamics I*	4
	Electronics 1, with Lab*	4
	Optics*	4
	Quantum Mechanics I*	4
	Physics Lab III	3
	Methods of Experimental Physics	3
	Mathematical Methods for Physics II	3
6	Quantum Mechanics II*	4
	Physics Lab IV*	4
	Statistical Mechanics I*	4
	Condensed Matter Physics I*	4
	Computational Physics	4
	Electrodynamics II	3
	Electronics & Instrumentation	3
	Group Theory in Physics	3
7	Physics Lab V*	4
	Nuclear and Particle Physics*	4
	Advanced Classical Mechanics	3

Physics Courses		
Semester	**Course Title**	**Number of credits**
	Astronomy and Astrophysics I	3
	Condensed Matter Physics II	3
	Fluid Dynamics	3
	Gravitation	3
	Physics at Nanoscales	3
	Quantum Field Theory I	3
8	Quantum Information	3
	Statistical Mechanics II	3
	Methods of Experimental Physics	3
	Mathematical Methods for Physics II	3
	Atomic and Molecular Physics *	4
	Physics Lab VI	3
	Advanced Gravitation	3
	Advanced Optics	3
	Astronomy and Astrophysics II	3
	Cosmology	3
	Non-linear Dynamics	3
	Advanced Particle Physics	3
	Physics of Soft Matter	3
	Plasma Physics	3
	Quantum Field Theory II	3
	Lab/Theory project course	3
	Electronics & Instrumentation	3
	Computational Physics	3
	Group Theory in Physics	3

BS - MS Programme

Science Education

The Science Education discipline is currently not offering a major or minor. Students can take the following courses in science education, and do their MS thesis in this discipline. These courses are stated in the table below.

Science Education		
Semester	**Course Title**	**Number of credits**
7	The Cognitive Basis of Science	3
	Science and the world	3
8	Pedagogy of Science	3
	The Role of Media, Models and Experiments in Science Education	3
	Philosophy of Education	3

Fifth Year Research Project

The fifth year project, carried out over the 9th and 10th semesters, is worth 36 credits.

MSc Programme

The two-year Master of Science (MSc) programme at IISER Pune is a new programme, launched in the Academic year 2022-2023. The MSc programme is currently offered in the departments of Chemistry, Mathematics, and Earth and Climate Sciences.

Eligibility and Admission process:

Admission to the MSc programme is an Institutional exercise, and is initiated by advertisements on the website and in select National newspapers.

Salient features of programme:

The programme is aimed at highly motivated students with a bachelor's degree in any branch of science, who are interested in an intense in-depth enquiry in specialised areas of research and education, as available in different Departments in IISER Pune. The programme is distinct from the successful IISER Pune Integrated 5-year BS-MS and 6-year Integrated PhD programme, by offering a Master's degree in a short period of 2 years. The MSc programme has an increased emphasis on course-work with research experience gained through short semester credit projects, summer training and a research focused second year.

Curriculum

Each Department offering the MSc programme has designed a blend of coursework and research projects spread over four semesters. The overall credit structure for these departments is as described below.

Curriculum MSc			
	Chemistry	**Geology**	**Mathematics**
Sem-I	18-24 credits	23 credits	20-24 credits
Sem-II	18-24 credits	23 credits	20-24 credits
Summer	2 months, 6 credits	2 months, 6 credits	2 Months, 6 Credits
Sem-III	3-12 credits	13 credits	16-24 credits
Sem-IV	3-12 credits	3 credits	4-12 credits
MS Thesis	30* Credits over Sem 3 and Sem 4	30* Credits (10 in Sem 3, 20 in Sem 4)	8 credits (Sem 4)
Total (minimum)	**84 credits**	**98 credits**	**86 credits**

*M.Sc Research Project is a mandatory requirement for an M.Sc. degree in Chemistry and Geology. The Research Project has 36 credits, including Summer, Semester III, and Semester IV.

MSc - Chemistry

Course structure

Courses available for the chemistry discipline are as described in the table below.

Chemistry Courses		
Semester	**Course Title**	**Number of credits**
1	**Organic Chemistry**	4
	Organic Laboratory	3
	Bioorganic Chemistry & Chemical Biology	4
	Main Group Chemistry	4
	Bioinorganic Chemistry	4
	Symmetry and Group Theory	4
	Chemical Equilibrium and Kinetics	4
	Statistical Thermodynamics	4
	Electrochemistry	4
	Self-Assembly	3
	Polymer Chemistry	4
	Organic Synthesis II	4
	Biomolecular Spectroscopy	4
	Solid State Chemistry	3
	Reaction Mechanism	2
2	**Organic Synthesis 1**	4
	Organic Spectroscopy	4
	Organometallic Chemistry	3
	Transition Metal Chemistry	4
	Inorganic Laboratory	3
	Organo- Transition Metal Catalysis	4
	Quantum Chemistry	4
	Photochemistry & Photophysics	3
	Advanced Spectroscopy	4

Chemistry Courses		
Semester	**Course Title**	**Number of credits**
	Asymmetric Synthesis	3
	Medicinal Chemistry	3
	Thermal and Photochemical Reactions	3
	Chemistry for Alternative Energy	4
	Advanced Material Science	3
	Introduction to Machine Learning for Chemistry	2
Summer	Research Project	6*
3	**Physical Chem Laboratory**	3
	Any elective course to complete the required credits	-
	Research Project	30*
4	Any elective course to complete the required credits	-
	Research Project	30*

* Research Project is total 36 credits combining summer, Sem III and Sem IV

- Mandatory courses to be taken in each semester are highlighted in bold in the table above.

MSc - Geology

Course structure

Courses available for the M.Sc. students enrolled in Geology discipline are as described in the table below.

Geology Courses		
Semester	**Course Title**	**Number of credits**
1	Earth and Planetary Materials	4
	Sedimentology and Stratigraphy	4
	Structural Geology and Tectonics	4
	Paleobiology	4
	Interactive Spheres	4
	Sedimentology and Palaeontology (lab)	3
2	Geo and Cosmo Chemistry	4
	Isotope Geochemistry	4
	Satellite Data Analysis and Image Processing	4
	Indian Geology and Resources	3
	Analytical Geochemistry Lab	3
	Introduction to Field Technique (lab)	3
	Reading Project	2
Summer	Research Project	6
3	Igneous and Metamorphic Petrology	4
	Sequence Stratigraphy	3
	Hydrology	3
	Igneous and Metamorphic Petrology lab	3
	Research Project	10
4	Geological Field Training	3
	Research Project	20

MSc - Mathematics

Course structure

Courses available for the M.Sc. students in mathematics discipline are as described in the table below.

Mathematics Courses		
Semester	**Course Title**	**Number of credits**
1	Rings and Modules	4
	Fields and Galois Theory	4
	Real Analysis II	4
	Point Set Topology	4
	Ordinary Differential Equations	4
	Graph Theory	4
	Statistical Inference (alternate years 2022, 2024 etc.)	4
	Numerical Analysis (alternate years 2023,2025 etc.)	4
	Semester Project	4
2	Complex Analysis	4
	Algebraic Number Theory	4
	Measure Theory and Integration	4
	Calculus on Manifolds	4
	Cryptography (alternate years 2023,2025 etc.)	4
	Algorithms	4
	Coding Theory (alternate years 2022, 2024 etc.)	4
	Semester Project	4
Summer	Research Project	6
3	Representation Theory	4
	Functional Analysis	4
	Differential geometry and Lie groups	4

Mathematics Courses		
Semester	**Course Title**	**Number of credits**
	Algebraic Topology	4
	Probability	4
	Semester Project	4
4	Introduction to Algebraic Geometry	4
	Fourier Analysis	4
	Riemannian Geometry	4
	Stochastic Processes	4
	Partial Differential Equations	4
	Semester Project	4
	M.Sc. Research Project*	8

- First year students who wish to take advanced second year courses will need approval from the departmental committee /mentor in case they already fulfil requirements of prerequisite courses.
- Apart from the listed courses above, some topics courses may be offered from time to time e.g. Markov chains and queueing models, Probabilistic number theory, Commutative algebra etc.
- It is mandatory to take at least one Semester Project (4 credits) during the M.Sc. program.
- Students are enrolled in a Research Project during the summer. The Research Project in semester IV is worth 8 credits. This can be replaced with equivalent course credits.
- Students may take at most two courses from other departments during the course of the program to satisfy their credit requirements.

Integrated PhD Programme

The six year, Int. Ph.D. programme includes rigorous coursework followed by research that leads to the award of a Ph.D. degree.

Eligibility and Admission process:

Admission to the i-PhD programme is an Institutional exercise, and is initiated by advertisements on the website and in select National newspapers. Students with an excellent academic record can apply for the i-PhD programme upon completion of a bachelor's degree in any branch of science.

Salient features of programme:

The Integrated PhD (i-PhD) programme at IISER Pune is aimed at highly motivated students who wish to pursue a career in research. The course combines curricula for masters and doctorate degrees into a single integrated programme with a blend of course work and research projects.

The programme is currently offered in Biology, and Physics, with studies in Interdisciplinary areas encouraged. The i-PhD student joins IISER Pune as a MS student and transits to a Junior Research fellow (JRF) at the end of year 2. At the end of two years, the framework of the i-PhD programme is similar to the Ph.D. programme. At this point, the two programmes overlap, with the duration of the fast-track i-PhD programme being shorter by a year as compared to traditional M. Sc. + Ph.D. programmes. The transition to IISER Senior Research Fellow (SRF) is at the end of 4 years for an i-PhD student and the end of 2 years for a Ph.D. student.

Curriculum

The i-PhD programme involves coursework and research projects, with students completing a total of 84 credits in two years (Semesters 1-4 and Summer). The distributions are tabulated below; detailed information on individual courses that can be credited are provided by the respective disciplines:

Discipline	Semester 1	Semester 2	Summer/ Winter	Semester 3	Semester 4	Total Credits
Biology	21	21	06	21	15	84
Physics	20	21	-	22	21	84

The allowed range of credits per semester is 18-24, based on requirements from individual departments.

Early exit from i-PhD Programme

Students registered to the i-PhD programme, who would like to exit with a MS Degree can do so provided they satisfy the following conditions:

- The student should complete at least 6 Semesters at IISER Pune, completing 120 Credits. These credits are a combination of coursework credits (84 minimum) and research credits (36 minimum).
- The student submits a MS Dissertation that is approved by his/her Supervisor and evaluated by a Departmental committee. The procedures of evaluation of the MS degree are on par and synchronised to the BS-MS programme cycle.
- The Departmental Chair (or Departmental Committee) forwards the approved Dissertation, with grades, to the Academic Office.
- Integrated Ph.D. students of batch 2018 and after can make a choice at the end of the 4th semester to exit as MS students or to continue in the Ph.D. programme. Those who elect to exit, continue as MS Students for the 5th and 6th semesters. Such students also have to satisfy the requirements for MS exit mentioned above.

PhD Programme

IISER Pune offers Ph.D. Programmes in Biology, Chemistry, Humanities and Social Sciences, Physics, Earth and Climate Science and Mathematics.

Eligibility and Admission process:

Students with a master's degree in Science, Engineering, Math or a bachelor's degree in Engineering/Medicine with at least 60% marks (aggregate) are encouraged to apply to our PhD programme. Admission to the Ph.D. programme is an Institutional exercise, and is initiated by advertisements on the website and in select National newspapers.

Salient features of programme:

The Ph.D. programme at IISER is one of the foundation programmes aimed to nurture future science professionals. The PhD programme at IISER Pune is a blend of classroom curriculum, mentoring under-graduate students along with a major research component. A core component of graduate student life at IISER Pune includes opportunities to participate in a broad range of seminars, meetings and workshops, giving our students a chance to interact with the wider scientific community.

Curriculum and Academic Framework

The Ph.D. Programme includes coursework in the first year. Students are required to register for 16 credits, which count towards their CGPA, distributed over the first two semesters. It is mandatory to maintain a CGPA of at least 6.5 at the end of semester 2 for continuation in the PhD programme. In case the student gets an F grade in a course in Semester 1, she/he may be allowed to repeat or substitute the course once by Semester 2, in an attempt to get a higher grade.

Selection of Thesis Supervisor: Once the admission formalities are completed, each Ph.D. student selects a Research supervisor who guides the student for the duration of their Ph.D. career. The selection, by mutual consent, takes into account the research interests of the student and the availability of projects offered by faculty members. The Thesis Supervisor, once selected, assists the student in course selection, and provides counselling on all academic matters.

Academic Framework: The progress of a student through the programme includes completion of coursework, a colloquium or Departmental Seminar at the end of the first year and a comprehensive examination at or before the end of two years. After successful completion of the comprehensive examination or two years into the programme, whichever is later, the student is upgraded from a JRF to a SRF. A minimum residency period of 1 year as an SRF

is mandatory for submitting a Ph.D. thesis. Once the student is a SRF, he/she has to undergo yearly evaluations by the RAC till the end of the tenure of the programme (5 years). The tenure of the programme can be extended by two terms of 6 months each, in each case requiring support from the students RAC.

Placement Process 2024-2025

For the placement cycle of AY 2024-2025, students registered on or before 2024 in the BSMS programme and getting their degrees in the upcoming convocation 2025 are eligible to apply. Similarly students getting their MSc in Chemistry / Geology / Mathematics degrees in the upcoming convocation 2025 are eligible to apply.

The entire process of placement is coordinated by the Career Development and Placement Cell (CDPC) affiliated to the Office of the Dean (International Relations and Outreach). The placement process is mandatorily undertaken in the virtual mode given that most students would be completing their final year degree coursework remotely.

The process is summarised as follows:

A. Registration of recruiters

1. CDPC invites the companies to enroll for placement drives. Companies are also encouraged to express their interest to enroll for the placement drive.
2. The recruiter fills up the Job Announcement Form (JAF) which contains basic details of the job opening like job description, salary, recruitment process etc.
3. JAF is made available to eligible students along with the information furnished by the company for a few days.
4. Interested students sign the JAF to appear for the recruitment process. The verified resumes of these students become available to the recruiters for further process.

B. Screening and shortlisting of candidates

5. The recruiter is expected to complete the recruitment process within 7 days from the date of receipt of CVs of interested candidates.
6. We encourage recruiters to conduct a pre-placement talk (PPT) prior to the recruitment process begins.
7. Recruiters can shortlist students based on their resume or conduct a test for the same.
8. All companies participating in the placement process who have completed their tests and evaluation processes are requested to update the placement office with their selection list at the earliest and within 3 days before the further process to help us plan accordingly.

C. Final Interviews

9. Interviews will be conducted by the recruiter in online mode since most students are undertaking their final year coursework remotely.

10. In a situation where a student cannot join an interview due to poor connectivity, the company should be prepared to conduct a telephonic interview. We would request all companies to not let the technical difficulties reflect in the evaluation of the merit of a candidate.

D. Pre-placement Offer

11. The recruiter is supposed to give the final selection and a wait-list at the end of the slot. All offers (made by the companies) shall be only through the Placement Office.
12. If a student receives multiple offers, the student may choose from the offers in hand and inform the placement office of his/her choice, within 24 hrs of the announcement of the results of their first confirmed offer.
13. If a student receives more than one offer in a slot and there is a delay in the announcement of results by some companies, the student is bound to accept the company's job offer whose results are declared in time. Hence companies are advised to not delay the release of the offers after all the processes have been completed.
14. The company shall be intimated of the offer acceptance within three days of the release of the offer.
15. Once a student accepts the offer, the student shall be de-registered from the active placement list.
16. Companies should send out offer letters to the candidates before the end of the academic year of the students. The Placement office must be informed of the same.

Note to the recruiters

We expect recruiters to fully honour the JD and JAF. If a recruiter pursues any of the following mentioned below, it might lead to action possibly including suspension for the next season:

1. Revoking offers unconditionally.
2. Revoking offers stating students are not eligible as per criteria that weren't mentioned earlier in the JD or written communications with the placement team (Background verification excluded).
3. Not adhering to the JD and the terms & conditions (eg: salaries less than filled in JAF, extending the training period and paying less).
4. Not declaring results of the placement drive within the prescribed time limit.
5. Rescinding the placement procedure without justification.

Career Development and Placement Cell

Career Development and Placement Cell (CDPC) at IISER Pune offers an array of services to support student career options and well-being. At the CDPC, we help navigate the career trajectory through various activities and develop students' employability as well as technical and academic skills.

Reach out to us at:
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