

PLACEMENT BROCHURE

2023-24



iiserb

INDIAN INSTITUTE OF SCIENCE
EDUCATION AND RESEARCH
BHOPAL

Center for Career Development

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Director's Message

IISER Bhopal creates independent and well-rounded individuals with a sound scientific attitude and critical thinking skills. Having a strong foundation in basic sciences, the students of IISER Bhopal learn to appreciate the nuances of interdisciplinary research as well. With state-of-the-art facilities and excellent faculty members who are accomplished researchers in their respective fields, the students from all our programs (BS, BS-MS, M.Sc., Integrated PhD, and PhD) receive the right guidance throughout their course at IISER Bhopal and hands-on experience of contemporary research.



Prof. Gobardhan Das
Director, IISER Bhopal

About Us

- Indian Institute of Science Education and Research Bhopal (IISERB) is one of India's premier autonomous research institutions, established in 2008 by the Ministry of Education, Government of India.
- We provide high-quality education through our BS, BS-MS, M.Sc, PhD and integrated PhD programs across disciplines in natural sciences, engineering sciences, economic sciences, and humanities.
- We encourage students to explore various disciplines, transcending traditional boundaries. This interdisciplinary approach equips them with a broad knowledge base, enhancing their adaptability and problem-solving skills.
- Students get exposure in professional work culture and cutting-edge research through internships, research projects, and scientific interactions, making them well-equipped to enter industry and academia.
- Critical and analytical thinking is promoted through a rigorous interdisciplinary academic curriculum.

INSTITUTE ACHIEVEMENTS



IISER Bhopal has been ranked 57th overall out of 70 Indian Institutions in the top 1500; 23rd among Indian Institutions, 351-400 in Asia in THE Asia University Rankings



60th in the overall ranking in India of NIRF 2023



Ranked 59th in QS Asia (within Southern Asia); ranked 281-290 in QS Asia overall ranking



In the promising band of Innovation Ranking (ARIIA)



6th rank in India among academic institutions



The Institute has about 219 running sponsored and consultancy R&D projects with a financial outlay of more than Rs.109 Cr. A total of 438 projects have been completed with a financial outlay of more than Rs.137 Cr



The Innovation and Incubation Centre for Entrepreneurship (IICE) has infrastructure capable of incubating 25 start-ups and 26 student pre-start-ups in the co-working space.



424 research papers published in international peer-reviewed journals in 2022-23 as per Web of science portal; 30 national and international patents filed, 5 patents granted till date.

STUDENT ACHIEVEMENTS



Our undergraduate team won the gold medal at International Genetically Engineered Machine competition 2022.



4 of our students won the 2nd position for their project PawaMaan device and app system at the Environmental Sensing Project Competition organised by University of Helsinki, Finland 2022



About 50 students were selected for MITACS GRI in Canada



1 of our students were selected for the Charpak Lab Scholarship 2023, awarded by the French Embassy



11 of our graduate students from different departments got the prestigious PMRF in 2023



Many of our students performed exceptionally well in CAT 2022 the best being 99.76 percentile



8 of our students were selected for DAAD WISE fellowship in Germany



Multiple achievements in GATE 2022 with the best being AIR 13 in GATE CS and AIR 12 in GATE Economics

What Distinguishes Us?

At IISERB, we take great pride in what sets us apart from other institutes. Our commitment to excellence, innovation, and holistic education has enabled us to create a unique environment that nurtures exceptional talent and shapes future leaders in various fields.

We cultivate a strong culture of public participation and scientific discussion among our students. We provide them with numerous opportunities to deliver scientific talks, engage in discussions with renowned researchers, and enhance their corporate trade and communication skills through workshops, guest seminars, and soft skills training programs. Students are rigorously trained for a broad spectrum of research techniques and exposed to the rich interdisciplinary research culture at IISERB.

At IISERB, we believe in nurturing not just brilliant minds but also compassionate individuals who contribute meaningfully to society. With our distinctive approach to education and the opportunities we offer, we empower our students to make a positive impact on the world.

Partner with us and discover what distinguishes IISERB as a leading institute for academic excellence and career success.

ACADEMIC PROGRAMME & ADMISSION

BS (4 years course)

- Data Science & Engineering
- Electrical Engineering and Computer Sciences (EECS)
- Chemical Engineering
- Economics

BS-MS (5 years course)

- Biological Sciences
- Chemistry
- Earth and Environmental Sciences (EES)
- Physics
- Mathematics

MSc (2 years course)

- Biological Sciences
- Chemistry
- Mathematics

iPhd & PhD

- Integrated Ph.D. programme in Mathematics and Physics
- IISERB offers Ph.D. programmes in DSE, EECS, Chemical Engineering, Economics, Biological Sciences, Chemistry, EES, Physics, Mathematics and HSS

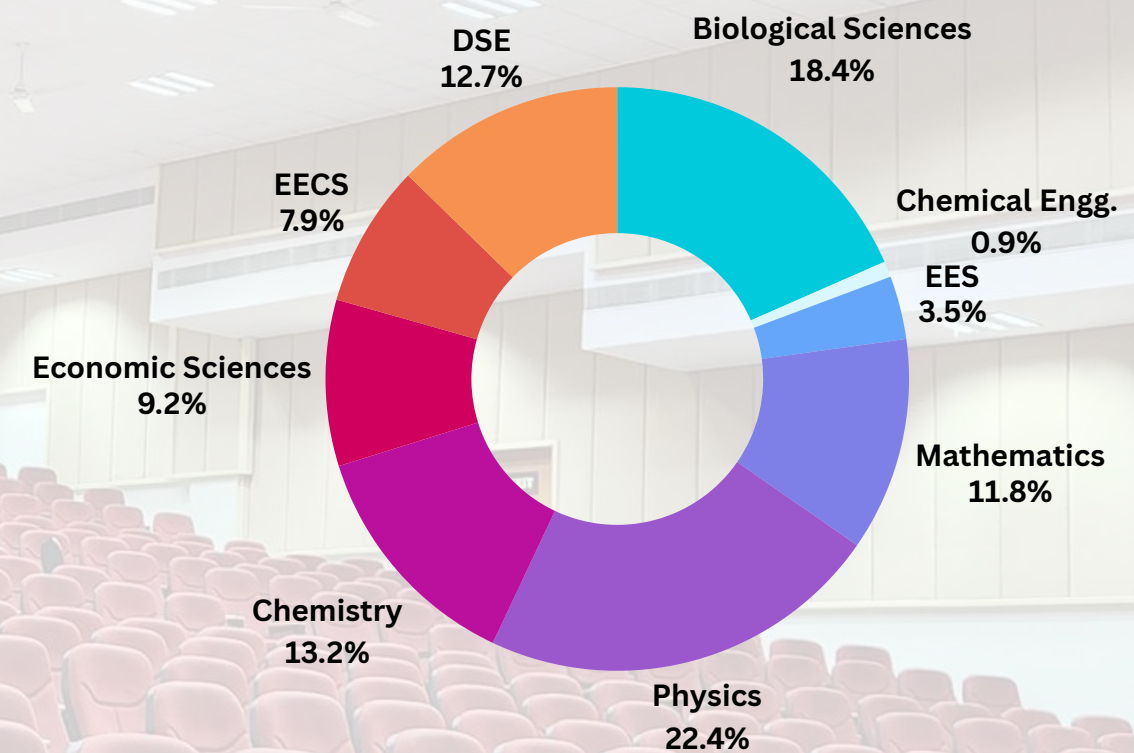
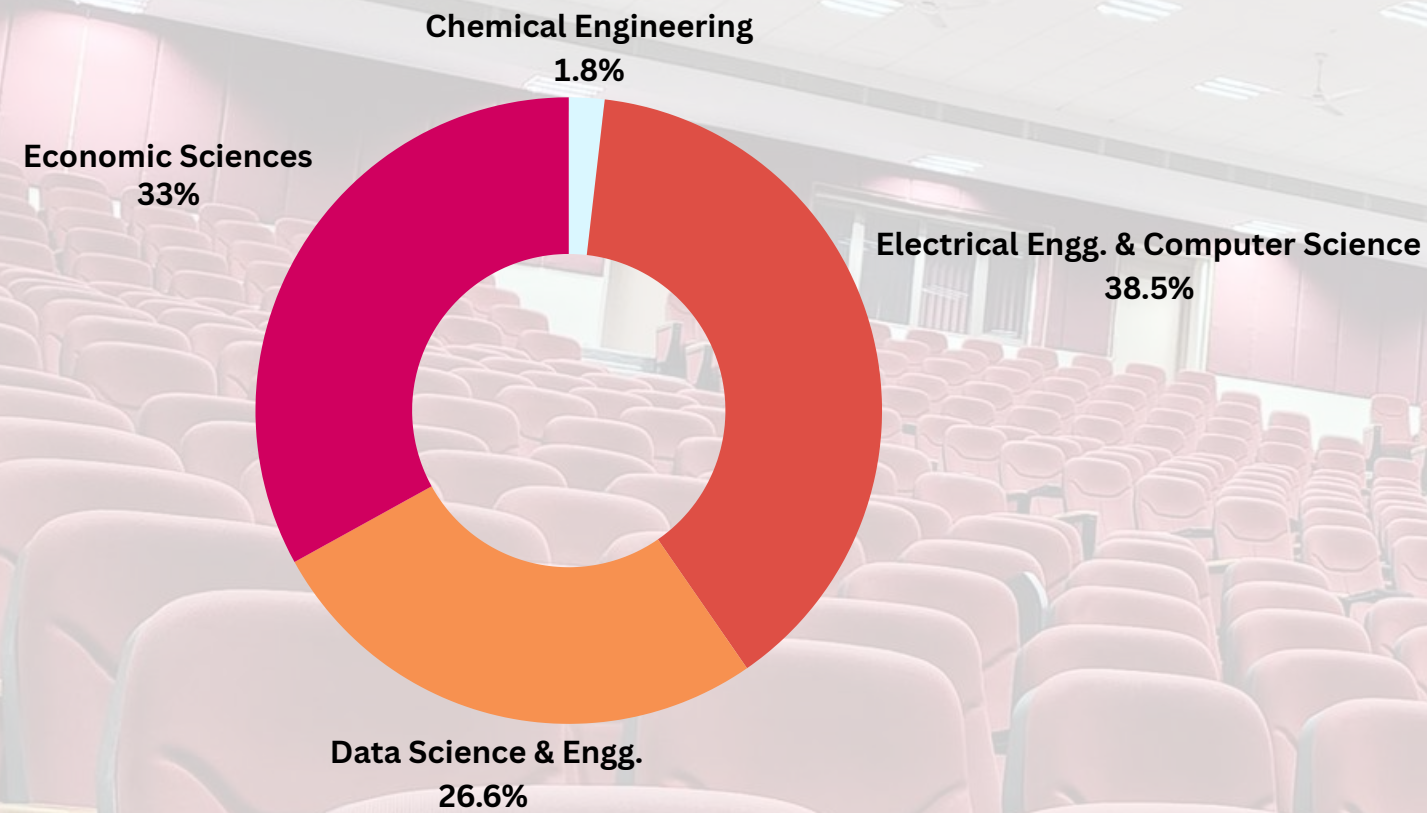
Students are admitted to the programme through the following channels:

- **JEE Advanced** : Candidates in General category securing a rank within 10000 in the Common Rank List (CRL) of JEE Advanced are eligible to apply.
- **IISER Admission Test** : IISER Aptitude Test (IAT) conducted as a computer based test in centres across India.

STUDENT DEMOGRAPHICS

Students in the final year of their BS Program (4 years course)

Students in the final year of their BS-MS Program (5 years course)



BS Program	No. of Students
Electrical Engineering & Computer Science	42
Data Science & Engineering	29
Economic Science	36
Chemical Engineering	2

BS-MS Program	No. of Students
Electrical Engineering & Computer Science	18
Data Science & Engineering	29
Economic Science	21
Chemical Engineering	2

Chemistry	30
Biological Sciences	42
Physics	51
Mathematics	27
Earth & Environmental Sciences	8

ENGINEERING SCIENCES

THE BS PROGRAM

- The 4-year BS program in Engineering Sciences is equivalent to a B.Tech degree.
- It is a unique program specifically designed to nurture the synergistic relationship among the pure science and engineering disciplines through interdisciplinary research.
- After the completion of a common curriculum in the first 2 years, students can choose one of the following disciplines as a major:
 - Chemical Engineering
 - Data Science and Engineering
 - Electrical Engineering and Computer Science
- The 3rd and 4th years are focussed on compulsory theory and laboratory courses, advanced departmental electives, open electives, and a project in the 8th semester.

Students can also get a dual degree (BS-MS) by devoting an additional year to research work for their Master's thesis and/or opt to 'minor' in other disciplines across streams by taking extra courses.

IISER Bhopal is the only IISER offering an engineering science major.

PhD Program

In the Engineering Sciences stream, we also offer a PhD program in the following disciplines:

- Chemical Engineering
- Electrical Engineering and Computer Science
- Data Science and Engineering

ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

The Electrical Engineering and Computer Science Department at IISER Bhopal provides comprehensive academic programs, immersing students in the scholarly nuances of both domains. This empowers students to make discerning decisions based on their interests. The department emphasizes the significance of industrial exposure and fosters partnerships with industry leaders. Concurrently, it nurtures a culture of academic pursuit, encouraging research and innovation. This balanced approach cultivates practical expertise and profound subject knowledge, equipping students for successful careers in industry and academia.



Curriculum

- Cryptography
- Combinatorial Optimization
- Concurrency Theory
- Data Structures & Algorithms
- Data Science & Machine Learning
- Network Science
- Operating Systems
- Communication & Signal Processing
- Internet of Things & Sensors
- Quantum Computing
- Robotics & Control Systems
- Solid State Devices
- Theory of Computation

R&D and Industrial Skills of our students

- Computational analysis of engineering problems
- Development and implementation of algorithms
- Design and implementation of ML and deep learning models
- Design and analysis of IoT applications and microcontroller programming
- Analog and digital circuit design
- Fabrication of devices and sensors & integration with system
- Functional material synthesis & characterisation
- Design and verification of software/hardware systems
- Performance evaluation of stochastic real-time systems

DATA SCIENCE & ENGINEERING

The Department of Data Science and Engineering at IISER Bhopal provides a versatile curriculum with a pronounced emphasis on experiential learning. Supported by cutting-edge infrastructure and a commitment to holistic development, the department encourages students to actively pursue practical exposure in corporate and academic spheres. Through the cultivation of critical thinking, collaboration, and research acumen, the department equips students with the requisite expertise to thrive in data science careers and address intricate industry challenges.



Curriculum

- **Advanced Machine Learning**
- **Applied Optimization**
- **Artificial Intelligence**
- **Bioinformatics and Biostatistics**
- **Combinatorics and Graph Theory**
- **Computational Linguistics**
- **Computer Vision**
- **Database Systems**
- **Deep Learning**
- **Digital Image Processing with Biomedical Applications**
- **Econometrics**
- **Evolutionary Intelligence**

R&D and Industrial Skills of our students

- **Multi-sensor Bigdata Analytics**
- **Development of Intelligent Systems**
- **Data-Driven Robotics**
- **Biomedical Informatics**
- **Natural Language Processing**
- **Development and Implementation of Algorithms**
- **Computational Modelling of Data-Driven Real-World Problems**
- **Geospatial Artificial Intelligence**

CHEMICAL ENGINEERING

The department encourages scientists to work toward engineering solutions, thus encouraging collaboration and erasing the boundaries between basic sciences and traditional engineering. This gives our students an edge over traditional engineers and makes them perfect candidates to develop new cutting-edge techniques and processes.



Curriculum

- Advanced Transport Phenomena
- Chemical Reaction Engineering
- Chemical Technology
- Fluid Mechanics
- Heat Transfer Operations
- Microfluidic Engineering
- Mass Transfer and Separation Process
- Petroleum Downstream Processing
- Process Design and Economics
- Process Dynamics and Control
- Polymer Processing

R&D and Industrial Skills of our students

- Multiphase Flow
- Computational Fluid Dynamics
- Non-Newtonian Fluid Mechanics
- Wastewater Treatment
- Interfacial Sciences
- Soft matter and Self-propulsion
- Renewable & Sustainable Energy
- IT & Management
- Materials Science

NATURAL SCIENCES

THE BS-MS PROGRAM

- The 5-year integrated BS-MS Dual Degree is our flagship program.
- Students take mandatory courses in the first two years, followed by intensive study in one major subject in the next three.
- The five major disciplines:
 - **Biological Sciences**
 - **Chemistry**
 - **Earth and Environmental Sciences**
 - **Mathematics**
 - **Physics**
- During the fifth year, BS-MS students undertake laboratory research under a faculty supervisor, as part of their Master's thesis requirements.

- The program is specially tailored to put more emphasis on in-depth knowledge and research-oriented learning.
- Students are free to choose electives of any department of their choice ranging from natural sciences or engineering to economics and humanities.
- They have an option to minor in any discipline along with their major degree, thus preparing them for interdisciplinary fields

Integrated iPhD and PhD Programs

In the natural sciences stream, we offer an integrated MS-PhD program in the disciplines of Chemistry, Mathematics, and Physics for graduates, as well as a PhD program in the five major disciplines.

BIOLOGICAL SCIENCES

R&D and Industrial Skills of our students

- Cell biology, immunofluorescence
- CRISPR/Cas genome editing
- Developmental studies using drosophila
- Epitope tagging, pulldown-based approaches.
- Electrophysiology, machine learning approaches
- Mammalian cell culture, bacterial culture, yeast culture
- Microscopy, fluorescence microscopy, confocal microscopy
- Molecular-cloning, molecular-biology, biochemistry
- Molecular virology, Lentiviral vectors
- PCR, RT-PCR, quantitative PCR
- Plantpheno typing, genotyping and transformation
- Protein purification, affinity purification
- RNA-biology, Yeast-2, hybrid assay, Histochemistry
- Ultracentrifugation, Electrophoresis-based techniques
- Western blotting, immunoblotting

Curriculum

- Biochemistry
- Bioinformatics and Biostatistics
- Bioinstrumentation
- Cancer Biology
- Cell Biology
- Epigenetics
- Immunology
- Microbiology
- Molecular Biology
- Neurobiology
- Recombinant DNA Technology
- Virology



CHEMISTRY

Curriculum

- Advanced Molecular Spectroscopy
- Advances in Transition-Metal Chemistry
- Bioinorganic and Biophysical Chemistry
- Chemical Biology
- Chemistry of Organic and Inorganic Materials
- Chemistry of Polymers
- Electrochemistry
- Frontiers in Organic Chemistry
- Main Group Chemistry
- Organometallics
- Quantum Chemistry
- Statistical Mechanics
- Supramolecular Chemistry
- Symmetry and Group Theory
- X-ray Diffraction

R&D and Industrial Skills of our students

Skills of our students

- Analysis of IR/Mass/NMR Spectrometry
- Analysis of diffraction data (single crystal and powder)
- Analysis of thermal data (DSC, TGA and HSM)
- Inorganic and organic compound synthesis
- Instrumentation: spectroscopy, voltammetry
- Pharmaceutical polymorphism and cocrystallization (mechanochemistry)
- Transition metal catalysis



EARTH & ENVIRONMENTAL SCIENCES

Curriculum

- Aerosol Science
- Earth Surface Processes
- Economic Geology
- Environmental Chemistry
- Field Geology
- Fuel Geology
- Geochemistry
- Geodynamics
- Global Climate Change
- Hydrology
- Indian Monsoon
- Marine Biogeochemical Cycles
- Mineralogy
- Oceanography
- Petrology
- Sedimentology and Stratigraphy
- Solid Earth Geophysics
- Structural Geology
- Sustainability

R&D and Industrial Skills of our students

- Climate and greenhouse gas modelling
- Data analysis and statistics
- Geoinformatics
- Hands-on training (via laboratory courses and field trips)
- Instrumental analytical techniques for geochemical analysis
- Remote sensing and GIS



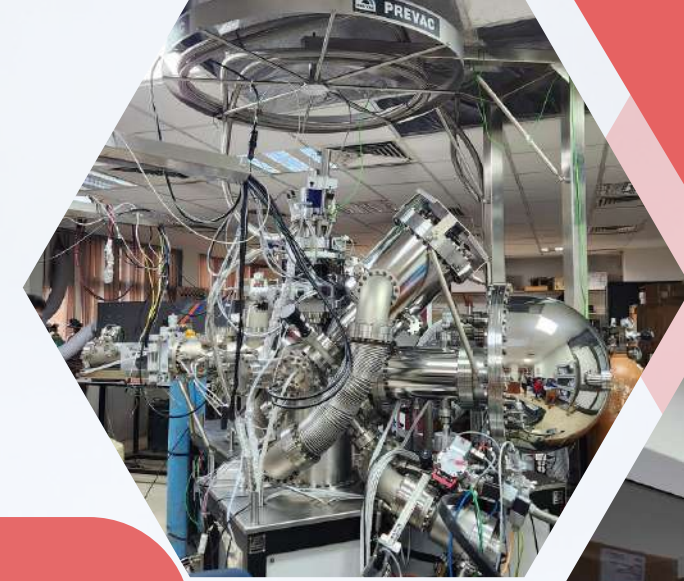
PHYSICS

Curriculum

- Atomic & Molecular Physics
- Classical Mechanics
- Computational Physics
- Electrodynamics
- Experimental Techniques
- Magnetism & Superconductivity
- Mathematical Methods
- Non-Linear Dynamics & Chaos
- Nuclear & Particle Physics
- Quantum Field Theory
- Quantum Mechanics & Information Theory
- Relativity & Cosmology
- Semiconductor Physics
- Soft Condensed Matter
- Statistical Mechanics
- Ultrafast Optics and Spectroscopy

R&D and Industrial Skills of our students

- Cryogenics
- Thermometry
- Magnetometry
- Radiometry
- Quantum Computing & Sensing
- Nonlinear System Dynamics
- NMR Spectroscopy
- X-Ray Crystallography
- Raman Scattering
- Fluid Dynamics
- Laser and Optical Physics
- Optical Instrumentation
- Monte Carlo Methods
- Fast Fourier Transformation
- Numerical Programming



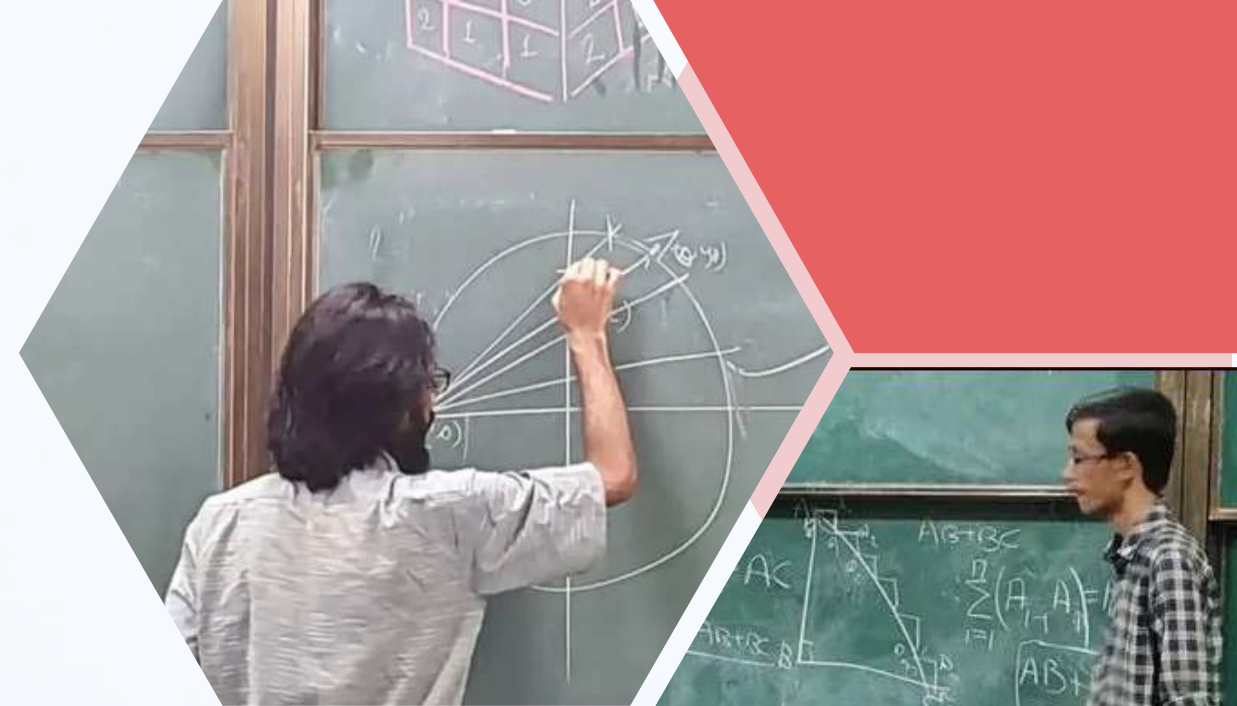
MATHEMATICS

Curriculum

- Combinatorics and Graph Theory
- Elementary Number Theory
- Real and Complex Analysis
- Ordinary Differential Equations
- Partial Differential Equations
- Measure and Integration
- Functional Analysis
- Linear Algebra
- Abstract Algebra
- Commutative Algebra
- Lie Groups and Lie Algebras
- Modern Cryptography
- Numerical Analysis
- Topology
- Algebraic Topology
- Differential Manifolds
- Differential Geometry of Curves & Surfaces
- Algebraic Geometry
- Riemannian Geometry
- Operator Theory & Operator Algebras

R&D and Industrial Skills of our students

- Advanced numeracy skills
- Statistical analysis, pattern finding.
- Applied optimization techniques
- Critical and analytical thinking
- Complex problem solving
- Quantitative reasoning
- Constructing mathematical and logical arguments
- Dealing with abstract concepts



HUMANITIES AND SOCIAL SCIENCES

The Humanities and Social Sciences (HSS) Department at IISER Bhopal was established recently with the goal of promoting a humanistic approach and creating awareness among science students and researchers. The department aims to foster a holistic view of science as a discipline connected to society, culture, and other areas of human thought such as arts, philosophy, and literature. By foregrounding the interfaces between science, society, and culture, the department seeks to initiate a dialogue between the natural sciences, social sciences, and humanities. At present, the department offers PhD in Humanities and Social Sciences.

Curriculum

- Critical Theory
- Continental Philosophy
- Philosophy of Science
- Gender studies
- Diaspora
- Environmental and Medical Humanities
- Memory studies
- Literary Criticism
- Cultural Studies
- Computational Linguistics
- Psycholinguistics
- Sociology of Religion
- Science and Technology Studies

R&D and Industrial skills of our students

- Critical Theory & Continental Philosophy
- Diaspora and Postcolonial Studies
- Environmental Humanities
- Feminist theory and Cultural Studies
- Literary theory and criticism
- Aesthetics
- Memory Studies
- Philosophy Studies
- Social Anthropology
- Science and Technology Studies

ECONOMICS

The Department of Economic Sciences at IISER Bhopal aims of fostering research and education across various fields of Economics. At present, the department offers two academic programs: a PhD program and a 4-year BS program.

Our department stands out as one of the few in the country that provides a 4-year BS program in Economic Sciences, with the opportunity to pursue a BS-MS (Dual Degree) in Economic Sciences by dedicating an additional year. This unique training allows students to explore various aspects of economics and equips them for careers in both research and the industry

Curriculum

- Applied Efficiency and Productivity Analysis
- Behavioural Economics
- Development Economics
- Econometrics
- Game Theory
- India in the World Economy
- International Economics
- Macroeconomics
- Mechanism Design
- Microeconomics
- Political Economy
- Public Finance
- Time Series Analysis and Forecasting
- Social Choice Theory

R&D and Industrial skills of our students

- Data Science and Analytics
- Programming in R, Python, STATA, SPSS, SAS, ProwessIQ by CMIE
- Time Series Modelling
- Risk Management
- Production Analysis
- Policy Analysis



PLACEMENT PROCEDURE

1



Invitations are sent out to companies a few weeks before the placement season, by CCD student representatives.

2



Companies express their interest in recruiting by filling out the JNF (Job Notification Form).

3



JNF (Job Notification Form), along with additional information and job description provided by the companies/organizations, is made available to the students.

4



Interested students register and their resumes are made available to the concerned company via the online portal or shared database. Recruiters scrutinize the applications and update the CCD with the details of short-listed candidates.

5



Campus recruitment dates are allotted to the respective companies, which are notified by early October.

6



A list of all selected candidates is submitted by the company at the end of the session. Offer letters are sent to final recruits within the next three weeks.

CAMPUS LIFE



IISERB MODEL UNITED NATIONS

Model United Nations propels students into the realm of diplomacy and negotiation. It develops their confidence, leadership and public speaking skills, enabling them to become active and compassionate global citizens.

SINGULARITY

This highly acclaimed annual science fest endeavors to instill a scientifically creative mindset through extracurricular activities that promote logical analysis and critical thinking.



ENTHUZIA

It is a vibrant celebration filled with enchanting cultural performances, intriguing events and games, and dazzling proshows.



INTER-IISER CULTURAL MEET (IICM)

The IICM showcases a multitude of competitions in music, dance, theatre, filmmaking, literature, and photography, with the goal of fostering a sense of unity within the realm of art and culture.



INTER-IISER SPORTS MEET (IISM)

Acknowledging the vital role of sports in nurturing crucial life skills such as sportsmanship, teamwork, leadership, and physical fitness, IISER Bhopal actively promotes the enthusiastic involvement of its students in the IISM.



SANGHARSH

It is the annual Intra IISERB Sports Tournament. Most events are organised in batchwise teams and provide the community members with a chance to prove their prowess and have fun.

ARTS & LETTERS

The annual literary fest of IISERB has a plethora of activities that encourage students to explore their creative side and fuel their inner artist. Arts & Letters is dedicated to promoting a rich artistic culture among students, fostering Fine, Literary and Visual Arts.



ARMAGEDDON

Armageddon, the annual e-gaming festival of IISERB, offers a diverse range of activities including e-sports tournaments, photography workshops, Armacode hackathon, and much more. The aim of Armageddon is to promote and celebrate the world of e-gaming.

WORKSHOPS AND CONFERENCES



Innovation, Design, and Entrepreneurship (IDE)," a five-day Bootcamp organized by the All India Council for Technical Education (AICTE) and the Ministry of Education's Innovation Cell (MIC), is all set to begin at IISERB I from June 22-26, 2023.

The National Conference on Advances in Chemical Engineering and Science (ACES) with the theme "The Process Development and Intensification" for sustainability development.



ECONCLAVE, organised by the Department of Economic Sciences, IISER Bhopal aims to bring together researchers to discuss original and advanced research contributions in various areas of economics.



TROPMET is a series of national conferences organized each year by IMS. Every fourth year, the TROPMET is organized at the international level with the name INTROMET.



The Institute, through its Centre for Science and Society (CS²), is organizing its maiden "Open House" to provide a platform for high school and college students, teachers, parents, and industries to experience cutting-edge teaching and research at IISERB



ESTEEMED RECRUITERS



Morgan Stanley



BÆRLOCHER



ओएनजीसी



TATA TRUSTS

Avanti



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Next Education™
Transforming Education



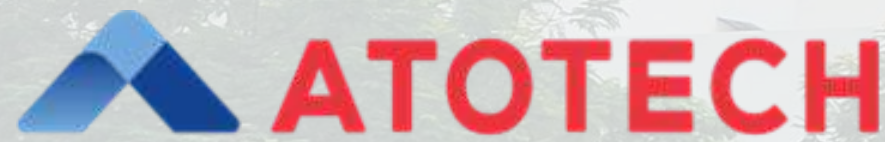
IDBI BANK



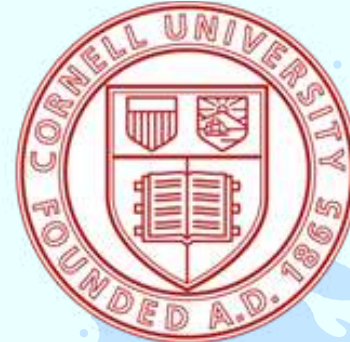
SBI



ESTEEMED RECRUITERS



OUR ALUMNI AROUND THE GLOBE



UNIVERSITÄT
HEIDELBERG
ZUKUNFT
SEIT 1386



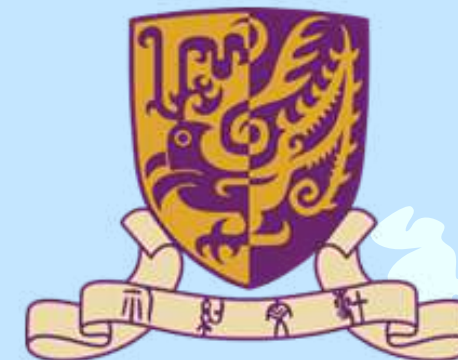
PRINCETON
UNIVERSITY



THE UNIVERSITY OF
MELBOURNE



Imperial College
London



UNIVERSITY OF
TORONTO



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE



NUS
National University
of Singapore



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN



ÉCOLE
POLYTECHNIQUE
UNIVERSITÉ PARIS-SACLAY



Durham
University



भारतीय विज्ञान संस्थान

THE CCD

The Center for Career Development (CCD) constantly endeavours to help fulfil students' aspirations by assisting them in realizing and choosing the appropriate careers based on their interests. It organizes various activities such as career workshops, training sessions, campus recruitment drives, and invited lectures by distinguished personalities from both the industry and academia.

Dr. Dhanyalekshmi Pillai

Chairperson

Associate Dean, Alumni and International Relations

adair@iiserb.ac.in, 0755-269-1379



Dr. Paramita Das

Head In-charge

Center for Career Development

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Dr. Rohan Singh

Associate Head in-charge

Center for Career Development

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Mr. Pravas Ranjan Behuria

Scientific/ Placement Officer

Center for Career Development

prbehuria@iiserb.ac.in, 0755-269-2417



Mr. Arshi Ali

Sr. Superintendent

Placement/ Internship Co-ordinator

Center for Career Development

arshi@iiserb.ac.in, 0755-269-2382



SDC's PLACEMENT TEAM

Saisab Sadhu 
Coordinator

Sayandeep Pal 
Co - Coordinator

Ashim Dhor 
Technical and Mining Head

Mohit Mohandas 
Mining Head

Manas Nandan 
Calling Head

Srutanik Bhaduri 
Technical Head

Hemal Bapat 
Content & Design Head

Debasmita Panda 
Designer

Sohan Pandit 
Designer

Placement Associates

G Gnanadharshini

Shivam Kumar

Sidharth Raman

Ashish Raj

Kaustubh Nyati

Mohit Kwatra

Namrata Seth

Manjeet Yadav

Saptarshi Halder

Sailesh Kacchi

Siddhant Patra

Pratyaksh Patel

Siva Reddy

Vaibhav M



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