



# PLACEMENT & INTERNSHIP BROCHURE (2023 - 24)

INDIAN INSTITUTE OF TECHNOLOGY MADRAS

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## WELCOME ADDRESS



### MESSAGE FROM OUR DIRECTOR

**Prof. KAMAKOTI VEEZHINATHAN**

Placement and Internships are the most important festivals of IIT Madras. There are great expectations from recruiters, parents, and students. I am sure the students would be very excited and surely dream of being hired by the absolute best in the country and the world. IIT Madras has been blessed to always have support from the corporate world and their interest in both hiring our students and many other collaborations. I am confident that our Placements and Internships will be lucrative and fulfilling for both recruiters and students. Wishing my best to all of you who are appearing for and recruiting through IIT Madras placement and internships! We remain thankful to our esteemed recruiters and cherish the continuing association and welcome the new recruiters into our fold.



### MESSAGE FROM OUR DEAN OF STUDENTS

**Prof. NILESH J. VASA**

We at IIT Madras are proud of the collaborative ecosystem of IIT Madras that transcends the boundaries of industry, academia, and students, creates an environment where all three are better off, and creates a unique edge for IIT Madras graduates. As professionals after graduating, our students have contributed immensely towards our country's and societal growth, and this will only increase in the future. The uncertainties of the post-pandemic world and its surrounding uncertainties may have created some challenges, but that has only motivated our students to be more resilient and work harder to progress well in both academics and research. The Placement & Internship Cell at IIT Madras will work with you to ensure that our students will get their dream placements and internships and you get a suitable student/ professional for your organization to move forward. Let this collaboration bring fructified results in Placement and Internship. Best wishes to all for one more successful Placement and Internship season at IIT Madras.

## WELCOME ADDRESS



### MESSAGE FROM OUR P&I ADVISOR

**Prof. SATHYAN SUBBIAH**

I warmly welcome you all to our campus to explore and meet with our students; I assure you that you will find many excellent opportunities to expand your human resource requirements. Our students are the best ones in the country, and they are very well trained via both academic and non-academic pursuits during their tenure at IIT Madras. You can check out the students perhaps first as interns and explore the match between the student's aspirations and yours. Or you can directly absorb them into your team as employees. In either case, I am sure you will not be disappointed. As your employees, our students will likely play a pivot role in taking your organization to greater heights, even when - especially when, the economy is looking gloomy. So, I invite you to come and meet with our students. Looking forward to seeing your team here soon!



### MESSAGE FROM OUR P&I CO-ADVISOR

**Prof. P. MURUGAVEL**

IIT Madras creates graduates of outstanding caliber at the undergraduate and postgraduate levels year after year. Our alumni have a proven track record of professional success, and we expect to keep this going with the 2023-2024 batch. Our students are well trained on fundamental concepts and engineering applications by top-notch faculty and staff who are some of the best in the country.

In addition to the well-established academic programmes, IIT Madras has started novel Interdisciplinary Dual Degree Programmes in domains such as Advanced Materials and Nanotechnology, Biomedical Engineering, Data Science, Energy Systems, Robotics, and Tech MBA. This would ensure that IIT Madras graduates are well-versed in both the fundamentals of their domain and are equipped to understand and shape the future of science and technology. The Placement and Internship office at IIT Madras serves as a link between two important stakeholders: our students and you, our valued recruiters.

On behalf of the IIT Madras Placement and Internship team, I invite you to the 2023-2024 Placement and Internship process and look forward to working with you in enabling you to hire the best talent for your organization. My best wishes to you and the students for a successful Placement and Internship process





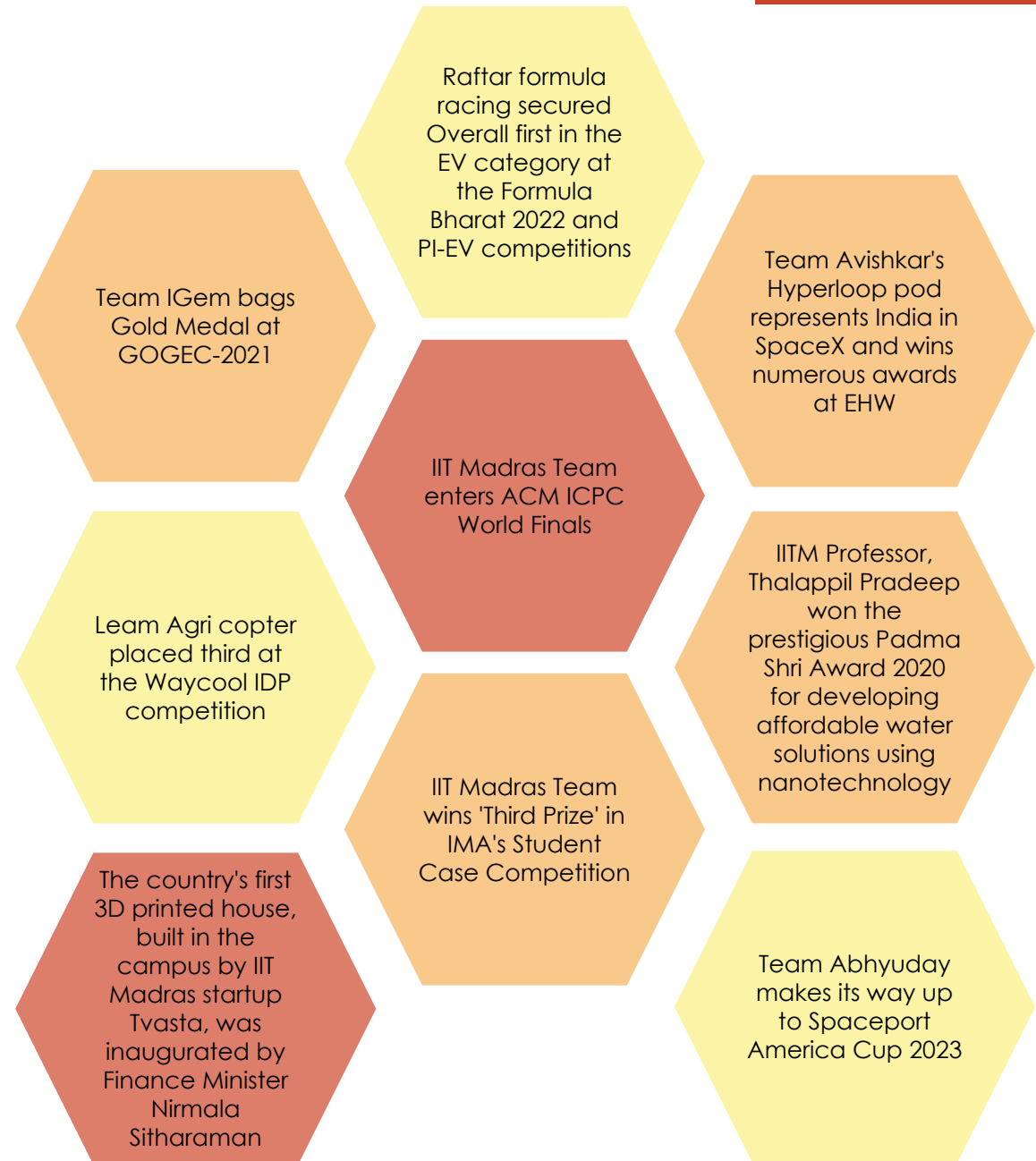
NIRF Ranking No. 1 in Engineering Institutes in India for eight consecutive years and No. 1 in the Overall Category for the fifth year in a row



Atal Rankings of Institutions on Innovation Achievements (ARIIA) 2021 ranking No 1 for the third consecutive year

"Established in 1959, Indian Institute of Technology Madras is one of the foremost institutes of national importance in technical education and applied research.

It has been instrumental in nurturing the dreams and aspirations of some of India's brightest minds through a mix of intensive curricular, co-curricular and entrepreneurship activities. The programs are aimed at developing in each student, a mastery of fundamentals, versatility of mind and motivation for learning, have resulted in well rounded leaders of the highest professional competence."



## Our Students

The USP of the IITs is the fact that they take in the cream of the talented students every year. The confluence of a multitude of skill sets exhibited by the students helps each of them to have an exponential growth in their earning curve. The institute provides students an environment to pursue their passions, be it tech, sports, music or arts.

This existing healthy amalgam of academics and extracurriculars in the institute, each given equal importance aimed at nurturing students to exhibit maximum competence in any field, imbibes both confidence and ability in the students to achieve what they want. World class cultural, technical and sports festivals of large magnitude organized entirely by the students manifests their managerial skill set.



## Our Alumni



**Prabhakar Raghavan** is currently head of Search and Assistant of Google. Before becoming the head for Google's advertising and commerce business, he served as the Vice President of Google Apps as well as Google Cloud services, overseeing the development and user experience



**Dr. D. V. Satya Gupta** is a Technology Fellow at Baker Hughes, a GE company. He is an active member of the American Chemical Society, American Institute of Chemical Engineers



**Gururaj Deshpande** is an Indian American venture capitalist and entrepreneur, who is best known for co-founding the Chelmsford, MA-based internet equipment manufacturer Sycamore Networks. the Deshpande Center for Technological Innovation at MIT and the Deshpande Foundation



**Vineeta Singh** is the CEO & co-founder of SUGAR Cosmetics. She is also known for co-founding Fabbags in 2012. She has been awarded The Economic Times 40 under forty award 2020. She is recognised as one of the young business leaders of India.



**Anand Ramarajan** is a Web & Technology entrepreneur. He is the founder of Junglee Corp. and also co-founded Cambrian ventures and Kosmix(now acquired by Walmart Labs). He was also Director of Technology in Amazon.com.



**Dr. Naga Bhushan** is a pioneer responsible for advancement of communication theory and for its innovative implementation. His role as the Vice President, Technology at Qualcomm Inc. places him at the helm of technologies that are the bedrock of the current smartphone revolution



**Dhinesh Kanagaraj** is the founder & CEO of Fabheads Automation. It is India's leading carbon fibre part manufacturer. He was an engineer in Indian Space Research Organisation(ISRO) before starting this company.

**Suresh Kumar** is the executive vice president and global chief technology officer (CTO) and chief development officer (CDO) of Walmart, Inc. He was responsible for Google's network advertising P&L.

**Ram Kishan Verma** is the founder, CEO and Managing Director of Resonance Eduventures, Kota. He is well reputed in coaching industry of India.

**Senapathy Gopalakrishnan**, popularly known as Kris Gopalakrishnan, is Chairman of Axilor Ventures, a company supporting and funding startups, was former executive vice chairman (former co-chairman) of Infosys, a global consulting and IT services company based in India. He is also one of its seven founders

**Dr. Sridhar R. Tayur** is a Ford Distinguished Research Professor of Operations Management, at Carnegie Mellon University, Pittsburgh, USA. He has also held positions at IBM, AT&T and Cornell University

**Dr. Sudhir Kumar Mishra** is currently the Distinguished Scientist & Direc for General (BrahMos) of, DRDO, Ministry of Defence, and CEO & MD of BrahMos Aerospace.

**Shri Thomas** is currently the director at Johnson Lifts. His tenure at John son Lifts has succeeded in transforming this small-scale firm into a well-known brand and a leading manufacturer of lifts and escalators.

**Sridhar Vembu** (born 1968) is an Indian billionaire business magnate and the founder and CEO of Zoho Corporation. Through Zoho, he took software and product development functions from urban centers into rural villages in India. He was awarded India's fourth highest civilian award, the Padma Shri, in 2021



# Academic Programmes & Admission

## B.Tech

This 4 year education programme has a central goal of imparting fundamentals of professional engineering to young students. It includes a 2-semester project in the final year. Aimed at inculcating a sense of original research amongst the student, it gives them an exposure to state of the art, technology and cutting edge research undertaken in the institute.

## M.Tech

This four-semester program provides graduates with a synergetic combination of industry oriented course work and research.

The academic curriculum includes core courses and electives to develop a strong theoretical base along with a final-year project and seminar.

Admitted graduates may have prior work experience. Internship is optional for M.Tech students.

## M.A.

The MA Programme is a unique 5 year Integrated Multi-disciplinary Program, comprising of two major streams: Development Studies and English Studies.

The coursework equips students with analytical, communication and research skills to pursue opportunities in academia, research, content generation, and other social sectors.

As a Social Sciences program in a leading institute of technology, it provides students with a versatile background and an interdisciplinary approach to problems.

## Dual Degree

A 10 semester programme, confers a B.Tech in a basic field of engineering with an M.Tech in specialized areas.

The students complete additional courses in the area of specialization and a yearlong project under the guidance of a professor.

## M.S

A PG level Research Program with a duration of about 2-3 years. It prepares students to undertake scientifically rigorous roles both in industry & academia. Students pursue research in various contemporary domains. The research work of the students get published in reputed national and international conferences and journals. The admitted graduates may also have prior work experience.

## M.B.A

The two year management education at IIT Madras where students learn from interactions with leaders across industries.

Focusing on the main functional areas of management like Finance, HR&OB, Operations etc students are also given a strong orientation towards the use of analytical tools and techniques.

## IDDD

Interdisciplinary Dual Degree Programs allows students from any branch to specialize in the following fields of their interest, thus broadening the domain of their knowledge.

- Advanced materials and Nano-Technology
- Computational Engineering
- Cyber Physical Systems
- Data Science
- Energy Systems
- Quantum Science and Technology
- Robotics

## Ph.D

A rigorous research program with a duration of 4-5 years. It establishes a candidate's ability to pursue independent research and a career in industry/ research labs.

The research work of the students gets published in reputed national and international conferences and journals. The admitted graduates tend to have prior work experience.

## Online B.Sc

The online B.Sc degree in Programming and Data Science is offered in three stages - Foundational, Diploma and Degree level. The students are equipped with good problem-solving skills, communication skills, ability to code in Python, Java and knowledge of advanced SQL, app development, data analysis and machine learning through the 31 online course offered across the three different levels.

## ENTRANCE EXAMINATIONS

### J.E.E(Joint Entrance Examination)

B.Tech	(4 years)
Dual Degree	(5 years)
IDDD	(5 years)

### G.A.T.E(Graduate Aptitude Test in Engineering)

M.Tech	(2 years)
M.S	(2.5 years)
M.Sc	(2 years)

### CAT

M.B.A	(2 years)
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### H.S.E.E

M.A	(5 years)
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### UGC NET/JRF

Ph.D	(4 years)
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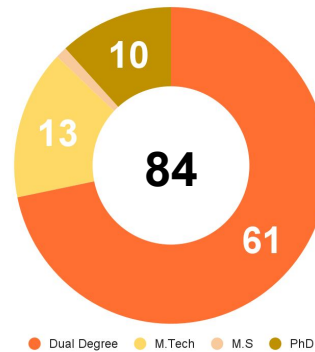
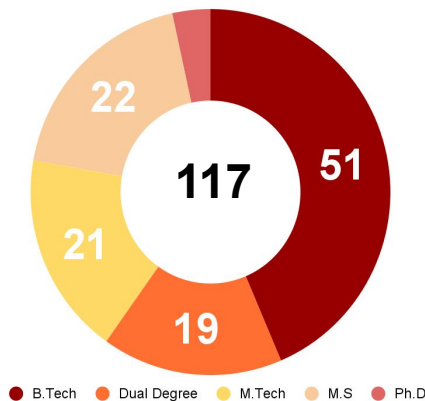
# Departments and Demographics

## Department of Aerospace Engineering

Established in the year 1969, the Department of Aerospace Engineering at IIT Madras has excellent experimental and computational facilities and has been actively involved in research activities of national importance with professor supervised Projects under ISRO, HAL and VSSC to name a few.

The department offers B.Tech, Dual Degree, MS, M.Tech and Ph.D programmes.

Students get exposed to an exhaustive level of knowledge in the fields of Aerodynamics, Flight Mechanics Propulsion and Structural Mechanics paving the way for a student with enough experience to take up any engineering role or advance into research.



## Department of Biotechnology

The Department of Biotechnology, set up in 2004 is an interdisciplinary program that exposes students to the growing health care needs by providing access to super specialty hospitals and state-of-the-art facilities to focus on research from basic research in the molecular basis of life processes to research in modern biotechnology.

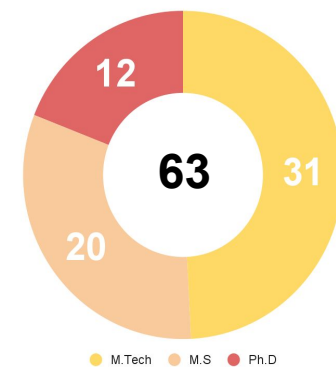
This department possesses the finest infrastructure for carrying out research in proteomics, genomics, bioprocess engineering and computational biology as well as in Bioprocess engineering

It offers Dual Degree, MS and PhD programmes in Biotechnology along with M.Tech and PhD programs in Clinical Engineering, a joint initiative by IIT Madras, Sree Chitra Tiruna IIMST & CMC Vellore

## Department of Applied Mechanics

Established in the year 1959, the Applied Mechanics department at IITM has grown into a full-fledged interdisciplinary graduate research department with state of the art experimental and computational facilities. Applied Mechanics department works in broad areas of Solid Mechanics, Fluid Mechanics, and Biomedical Engineering.

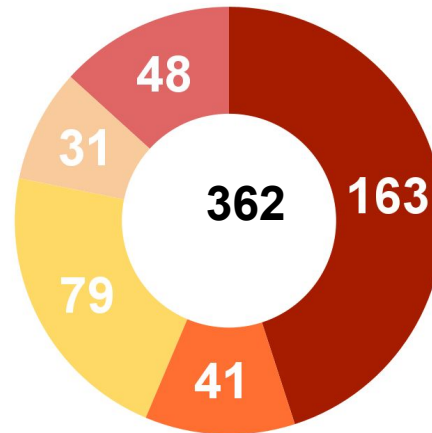
The department offers M.Tech, MS and PhD programmes. M.Tech (Clinical Engineering) is a unique programme offered in collaboration with two prestigious institutes. This department works in collaboration with government bodies like ISRO, DRDO, and DHI. Students in the department are highly skilled in technologies such as Machine Learning, Data Science, Finite Element Analysis, Computational Fluid Dynamics, Biomechanics, Medical Imaging and Instrumentation.



# Departments and Demographics

## Department of Metallurgical and Materials Engineering

The Department of Metallurgical and Materials Engineering offers B.Tech, Dual Degree, M.Tech, MS & PhD. programs and draws in faculty's expertise in a variety of areas like materials technology, iron & steel technology, computational engineering, etc. to equip the students with an unmatched skill set in these areas. The emerging areas in materials science such as nanotechnology, fuel cells, bio materials, and additive manufacturing are also covered through the course.



● B.Tech ● Dual Degree ● M.Tech ● M.S ● Ph.D

## Department of Ocean Engineering and Naval Architecture

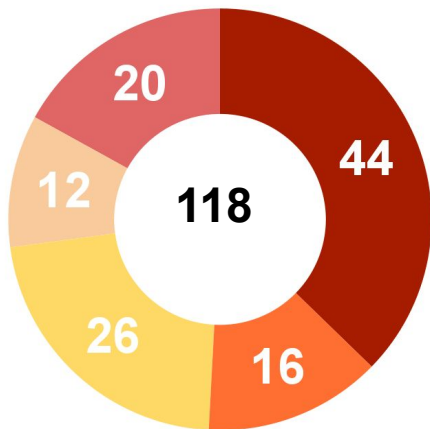
Established as the Ocean Engineering Center in the year 1977, it was upgraded to an academic department in the year 1982. The department is equipped with world class unique experimental facilities. The department has a strong association with the industry forged through consultancy projects, sponsored research and student internships. The academic degree programs offered by the department are B.Tech and Dual Degree (Naval Architecture) or Applied Mechanics M.Tech (Ocean Engineering and Petroleum Engineering). MS and PhD programmes

## Department of Mechanical Engineering

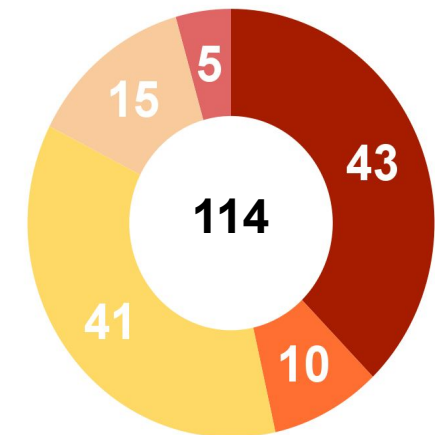
The Mechanical Engineering Department of IIT Madras is one of the oldest and one of the biggest Departments of the institute. The departmental activities can be categorized into 3 major streams, namely Design, Manufacturing and Thermal Engineering.

With 9 equipped laboratories and over 40 distinguished faculty members, IITM gives students the opportunity to pursue their interest in this domain. Students are provided exposure to both academia and industry through their final year projects and industrial training Internships.

The department offers B.Tech. Dual Degree, M.Tech, MS and PhD programs



● B.Tech ● Dual Degree ● M.Tech ● M.S ● Ph.D



● B.Tech ● Dual Degree ● M.Tech ● M.S ● Ph.D

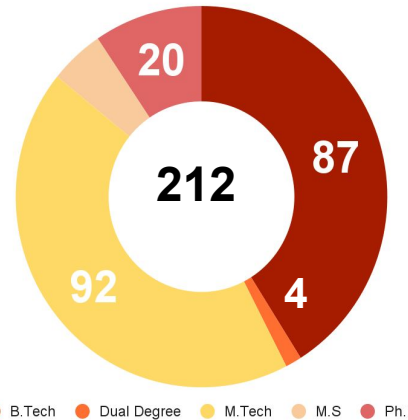
# Departments and Demographics

## Department of Chemical Engineering

The Chemical Engineering department's vision is to be a global centre of academic and research excellence in Chemical Engineering Sciences and Technology.

It includes state of the art lab facilities, the best Sophisticated Analytical Instrumentation Facility (SAIF), a rigorous curriculum and training by highly qualified and experienced faculty members. The Process Control and Systems engineering group has been ranked among the best worldwide.

The department offers B.Tech, Dual Degree, M.Tech, MS, PhD programmes as well as M.Tech Program in Catalysis Technology. Students pursue courses in fields like systems engineering, soft matter, polymers, energy and environment etc.



## Department of Civil Engineering

The Department of Civil Engineering offers courses that encompass Planning, Design, Construction and Management of engineering projects.

Our students work on projects that are at the forefront of technological advancements in this field. Many of the faculty members have received advanced degrees from reputed institutions worldwide.

Many of our alumni hold prestigious positions in leading academic institutions, industry and government in different countries all over the world.

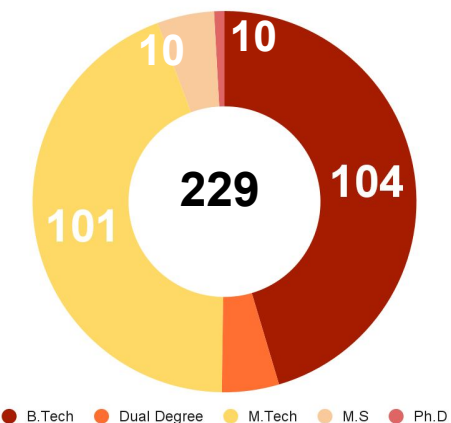
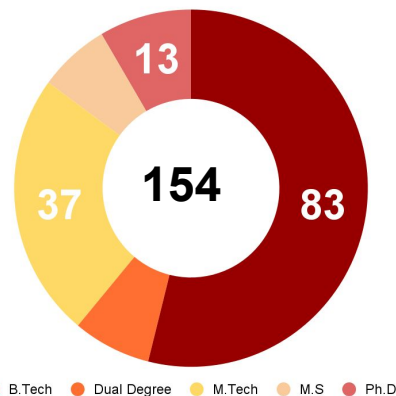
The academic programmes offered by this department are B.Tech, M.Tech, MS and PhD.

## Department of Computer Science Engineering

The CSE Department at IIT Madras brings together a highly talented and motivated set of professors and students, with a wide range of expertise in various domains of CSE such as Machine Learning, Deep Learning, Data Science, Artificial Intelligence, Cyber Security, High-Performance Computing, Algorithms and Complexity.

A strong foundation in the core aspects of CSE that can be applied to solve practical and large scale system problems is a key component of the CSE curriculum both in the theory courses as well as the labs.

The Department offers B.Tech, Dual Degree, M.Tech, MS and PhD programs.



# Departments and Demographics

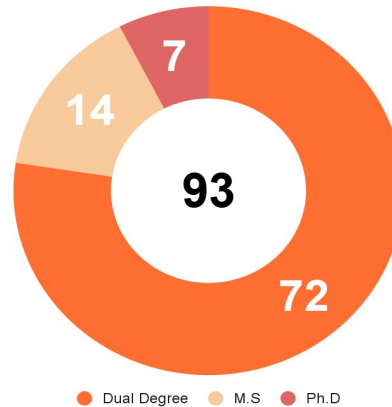
## Department of Electrical Engineering

Established in 1959, the Electrical Engineering Department is one of the most sought after departments of the Institute.

It works in the frontier areas of communications, micro-grids, integrated circuits and systems, microelectronics, electromagnetics and photonics, and biomedical devices aiming at industry, research and defense labs, hospitals and the government.

It counts one DBT Ramalingaswami Fellow, many IEEE Fellows, Bhatnagar awardees, Swarna Jayanti awardees and editors of prestigious professional journals among its faculty.

The department offers B.Tech, Dual Degree, M.Tech, MS and Phd programs.



## B.Tech in Engineering Physics

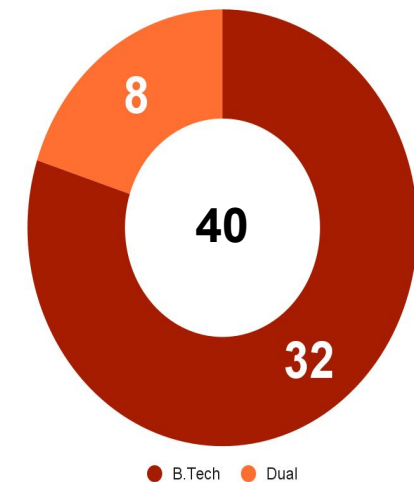
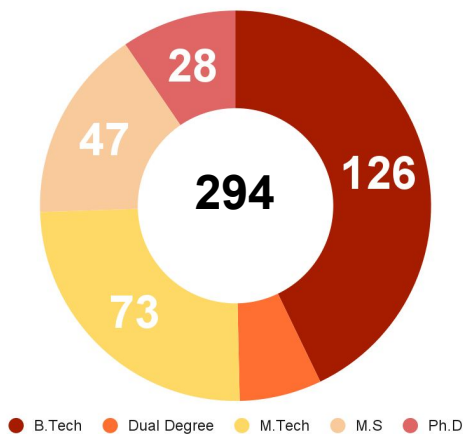
The B.Tech in Engineering Physics is a unique program jointly offered by the Department of Electrical Engineering and the Department of Physics. The curriculum is a well-tailored assembly of core courses from both departments. It consists of courses like Signal Processing, Digital and Analog Systems, Solid State Physics, Quantum Computing, and Quantum Information, etc., which give students a strong background in electrical engineering and in-depth knowledge of the underlying physics

## Department of Engineering Design

The Department of Engineering Design is the 16th department in IITM with a focus on interdisciplinary teaching and research to provide the much needed leadership in this area.

The major focus domains of research are Automotive Systems and Design, Material Design and Manufacturing, Robotics and Mechatronics, and Biomedical Design, encompassing Optimization, Machine Learning algorithms, Data Science techniques, and other state-of-the-art concepts.

A unique feature of the dual degree curriculum is the semester-long internship. Department of Engineering Design is the only interdisciplinary department in the country with a very specific focus on form design and functional design, with domain expertise. The department offers Dual Degree and PhD programs.



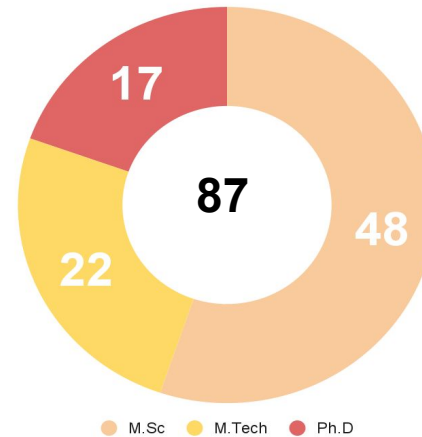
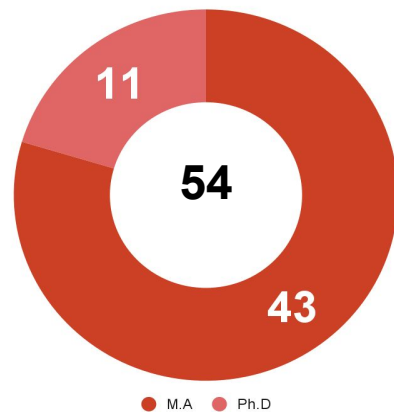


# Departments and Demographics

## Department of Humanities and Social Sciences

The Department of Humanities and Social Sciences is one of the oldest in the institute. It offers 5-year Master of Arts programmes in Development Studies and English Studies and a PhD programme. The department has an interdisciplinary edge with faculty from fields as diverse as Economics, Development Studies, English Studies, International Relations, Environmental Studies, and Urban Studies with equally unique courses.

The MA programme has a 2-year foundation phase where topics common to the Humanities and Social Sciences are covered, followed by 3 years of Masters in either stream. Development Studies stream focuses on Economics, Econometrics, International Relations, Urban Studies, etc. while English Studies covers History of Literature, Linguistics, Cultural Studies etc.. Final year students undergo a year long thesis project before pursuing diverse careers in the workforce or academia.



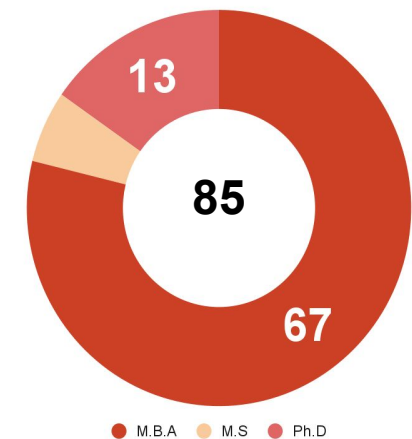
## Department of Mathematics

The department of Mathematics offers programs of M.Tech in industrial mathematics and Scientific computing, M.Sc and PhD, by providing the foundation in computational mathematics that is crucial to the education of engineering students and is required for many fields of modern endeavours such as science, technology, finance and engineering.

Active research and extensive curriculum in fields of Algebra and Analysis, Discrete mathematics, Mathematical Modelling, Probability and Applied statistics, Combinatorial analysis, Topology, Stochastic processes, Data visualization, and basic applications of computer science prepares student to intersect the demand of industries using cutting-edge technologies. The Department also offers cross-disciplinary opportunities through elective

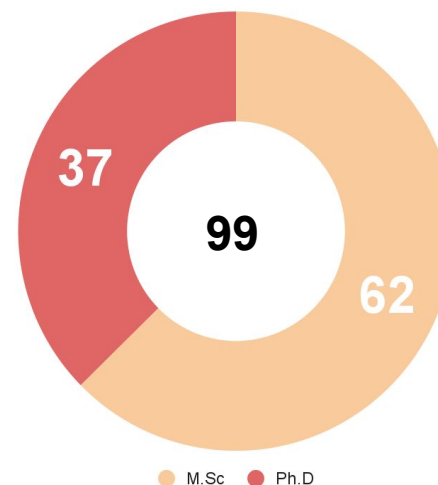
## Department of Management Studies

The Department of Management Studies was established in the year 2004. Apart from its traditional M.B.A programme, the department boasts itself by offering a one-of-a-kind masters (M.S) program as well as a doctoral program (Ph.D) at the research level. It also offers an executive MBA program for middle and senior-level executives and M.S (Entrepreneurship). The department has several domains viz Operations, Finance, HR & OB, Information Systems, Marketing, and Integrative Management. A M.S/Ph.D research scholar, apart from acquiring knowledge in various management disciplines, develops expertise in a particular domain of his/her choice by pursuing research in the same. Faculties are among the top researchers in the country and in the world.



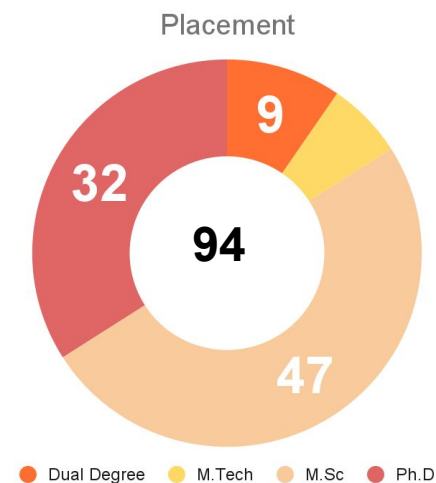
## Department of Chemistry

The Department of Chemistry at IIT Madras has been engaged in imparting the highest level and quality of Chemistry Education and has focused upon addressing key scientific problems which have gathered worldwide appreciation and recognition. It has 34 faculties on roll who work in synthesis, property examination and theoretical aspects of matter at molecular level. They have adequate equipment for carrying out cutting edge science and our research findings are published in peer reviewed journals. The department imparts education towards the award of M.Sc and Ph.D degrees.



## Department of Physics

The Department of Physics at IIT Madras consists of 47 faculty members with diverse research interests. Apart from the B.Tech in Engineering Physics, the other programs in the department are the B.S and M.Sc Dual Degree program in Physics, the M.Tech in Solid State Technology with a one-year project, the Ph.D. program which offers several exciting frontier research areas as well as the M.Sc. In addition, students do research projects with the faculty members and sponsored research internships which prepares them well for a career in the industry as well as in academics.



## IDDD

### Advanced materials and Nanotechnology

This programme aims at equipping students with an understanding of the fundamental science behind advanced materials and also training them with the practical tools and techniques of fabrication (materials and devices). The Curriculum is designed with the understanding that the modern field of Advanced Materials and Nanotechnology is based on the exchange of ideas between sciences and Engineering branches which includes synthesizing novel materials which encompass a wide range of fields like Energy generation and storage materials, batteries, microelectronic devices, magnetic materials, water purification, high strength materials, sustainable plastics, sensors, etc.

### Atmospheric and Climate Sciences

This programme is aimed at nurturing and developing the next generation of atmospheric and climate scientists. It is designed to provide detailed understanding about atmospheric processes and their interactions covering the range from molecular to global scale helping in improved knowledge about climate change. we propose an interdisciplinary dual degree master's program to combine the disciplines of science, engineering, and social sciences. The goals of atmospheric and climate science research are to understand, record ultimately, and predict the underlying processes inducing the climate change in an attempt for us to manage, adapt, and help in the design of remedial measures.

### Biomedical Engineering

This IDDD programme is intended to produce graduates with up-to-date and fundamental understanding of biomedical engineering, by integrating various engineering disciplines with biomedical sciences. This programme aims to produce graduates who are ready to hit the ground running in industry, as well as foster new knowledge and evolve leadership in biomedical engineering research and entrepreneurship. The courses are flexible, in order to enable the students to choose from four major streams of biomedical engineering such as biomaterials, bioinstrumentation, image and signal processing and medical physics. This curriculum enables the students to explore diverse fields of biomedical engineering matched to the skills acquired as part of their UG curriculum. The interdisciplinary lab sessions in the curriculum range from circuit building exercises to cutting edge research-oriented experiments at various participating laboratories.

### Complex systems and Dynamics

The proposed program aims to introduce students to new techniques and tools for mathematical modelling and analysis of complex dynamical systems and to investigate some of the challenging dynamical problems in climate science, neuroscience, biological systems, Multiphysics systems, and active flows. In addition to enhancing the fundamental understanding of the universal features, which contribute to similar phenomena that occur across a diversity of systems, the effort could also translate into delivering technology that is useful in industrial and societal contexts. Students graduating from this program will be proficient in the theories and techniques of modeling and analysis of complex dynamical systems, curating voluminous data for mathematical modeling, high performance computing, and will have hands-on experience in applying these techniques for analysis of cutting edge niche problems that encompass fields of electrical engineering sciences, mechanical engineering sciences, biology, physics, and mathematics.

### Computational Engineering

The students are facilitated with the development of Engineering Analysis and design tools for solving Complex Engineering problems. It provides knowledge about the computational field which facilitates the design and development of systems and devices with ease. Students are provided with the computational skill set of understanding algorithms and deployment of suitable data structures along with the tools and techniques from high-performance computing which facilitates efficient computation and code parallelization.

### Cyber Physical Systems

These systems are integrations of computation, networking, and physical processes. The program aims at integrating the dynamics of the physical processes with those of the software and networking, providing abstractions and modeling, design, and analysis techniques for the integrated whole. Embedded computers and networks monitor and control the physical processes, with feedback loops where physical processes affect computations and vice versa. These systems include smart grid, autonomous automobile systems, medical monitoring, industrial control systems, robotics systems and automatic pilot avionics. Students are trained on merging computing and communication with physical processes and mediating the way we interact with the physical world, cyber-physical systems bring many benefits such as making the systems safer and more efficient and also they reducing the cost of building and operating these systems.

## IDDD

### Data Science

The program brings together all aspects of technology required for gathering, storing, analyzing and understanding data. This includes storage technology, distributed computing, data-driven modelling, data analytics and mining, visualization, security. This is again a highly demanded interdisciplinary program. The curriculum has a core component that covers the fundamental theoretical and tools required. The areas of application of data science include Business Analytics, Business logistics, including supply chain optimization, Finance, Bioinformatics, and natural sciences, etc.

### Electric Vehicles

This program develops industry-ready professionals who can take up careers in the functions of Engineering and Development of various types of EVs-starting from e2W and e3W and going all the way to e-Buses and e-Trucks. With completion of this course students shall be capable of understanding, analysing, applying and debugging in the areas related to EVs like Vehicle Dynamics, Battery Engineering including Cell Development and use, Power Electronics and Embedded systems for EVs, Motors and their controllers, Vehicle control strategies and algorithms, Thermal management of all EV systems and aggregates etc.

### Energy Systems

The programme equips the student with the necessary skills to deal with the fast-evolving energy related technologies. Under this course, the students specialize in Principles of Thermal Energy Conversions, Renewable Energy Technology, Materials for energy conversion, and Technology and Energy Economics. Students can also specialize in any final utilization of Energy. The application is focused on thermal power plants and coal combustion, nuclear reactors, material synthesis, fuel cell technologies and supercapacitors, solar, wind, geothermal and biofuels, pricing, taxation, energy markets, the economics of various types of sources, climate change, and policy aspects.

### Public Policy

Students of engineering trained in policy sciences will be able to contribute more effectively in the designing, implementation, monitoring and assessment of policies at societal level. The proposed programme in Public Policy intends to impart such perspectives and skills to the engineering students of IITM and equip them to make significant contributions to the policy making process in India. Students of this programme get opportunities to learn through internships and field projects and engagement with policy making machineries such as Planning Commissions of various state governments, Think Tanks, reputed Non-Governmental Organizations known for their contributions in the past as well as elected representatives (MPs and MLAs).

### Robotics

This program in Robotics has its focus on Design, Analysis, and Application development (new system development). The students expertise in Basic robotic technologies, Kinematics, dynamics and control of Industrial and field/service robots. Sensing, perception, planning and control applied to autonomous robots. Application of Artificial intelligence, Neural Networks and Reinforcement learning in Robotics, Hardware systems, and controllers used in robotics, Design of robotic systems for new applications.

### Quantitative Finance

This Program Enables students to more easily adapt to new developments in finance and bridge the gap between application of modern product and process technologies and state-of-the-art finance. Equips students to build advanced knowledge of the main theoretical and applied concepts in quantitative finance, financial engineering and risk management, using current issues to stimulate the thinking process. Also, this program prepares for careers involving the design and management of new financial instruments, the development of innovative methods for measuring, or predicting and managing risk.



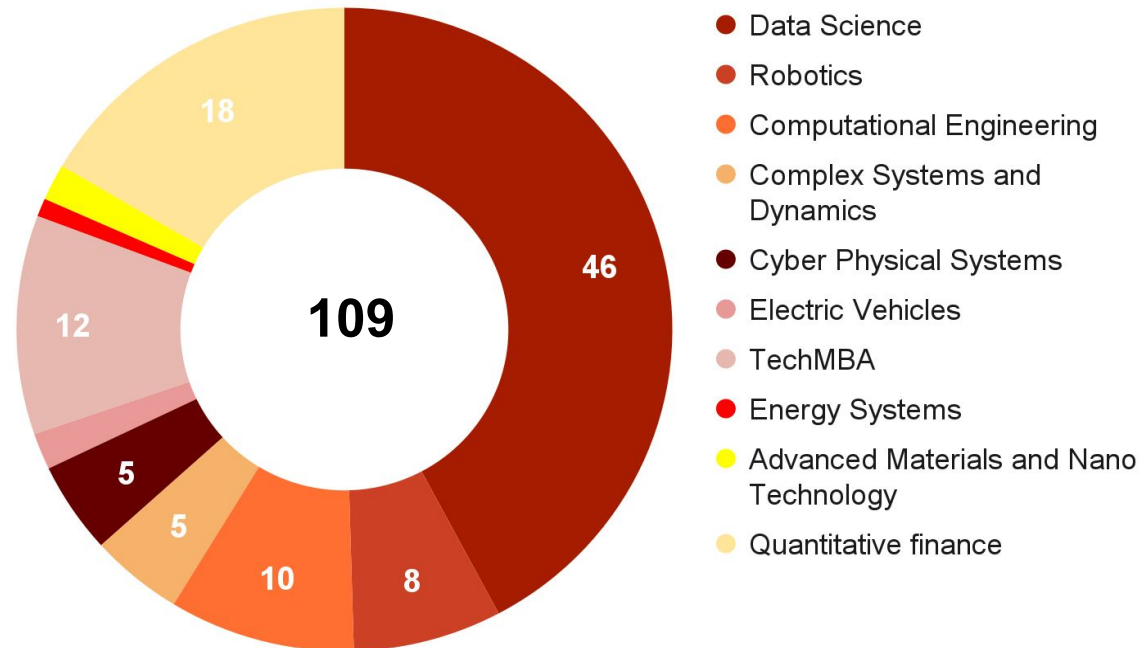
## IDDD

### Quantum Science and Technology

This course specializes the students on quantum computation and quantum computation and quantum information, Experimental techniques for quantum computation and metrology, quantum electronics and lasers, and optical signal processing and quantum communication given the interest in quantum computing and information. The applications include secure communications, highly sensitive measurement methods, and creating computing power that far exceeds today's supercomputers.

### Tech MBA

The program offers the students cutting-edge management inputs, with the best possible curriculum and interface so that they are capable of managing businesses in the world of newer technologies in the most optimal way. It enriches the knowledge in the functional core, personal analytics and transformational technologies. It enables the students to gain a multidisciplinary perspective on business functions and international business, development of teamwork and leadership skills, insights on models and tools of business research and management, demonstration of enterprise transformation and decision making.



# Internships at IITM



Hindustan Unilever Limited



SWIGGY



# Research Scholars

At IIT Madras, research is a preoccupation of around 550 faculty members, 3000+ M.S and Ph.D research scholars, more than 800 project staff, and a good number of undergraduates as well. It spans everything from basic curiosity driven investigations to research directed at finding disruptive solutions to the daunting challenges facing India.

Scholars Portal provides a platform for companies to connect with scholars who are the best fit for the company as per their area of interest.

Link to Research Scholar Portal: <http://scholars.iitm.ac.in>

<b>2858</b>	Full Time PhD Students
<b>67</b>	Part Time PhD Students
<b>32000+</b>	Papers Published
<b>1500+</b>	Patents Granted
<b>1200+</b>	Sponsored Research Projects
<b>69</b>	Funding Agencies
<b>433</b>	Client Organisations
<b>891</b>	Consultancy Projects

## Centres of Excellence

IITMRP (IITM Research Park) has a number of centres of excellence that offer guidance and resources to R&D centres, startups and propels path-breaking research.

- Advanced Manufacturing Technology Development Centre (AMTDC)
- Centre for Battery Engineering and Electric Vehicles (CBEEV)
- Centre of Excellence in Wireless Technology (CEWIT)
- Centre for Urbanization, Buildings, and Environment (CUBE)
- Deakin-IIT Madras Centre Of Excellence In Advanced Materials and Manufacturing
- Healthcare Technology Innovation Centre (HTIC)
- International Centre for Clean Water (ICCW)
- Centre for Technology and Policy (CTAP)
- Centre for Continuing Education (CCE)
- Centre for NEMS and Nanophotonics (CNNP)
- Centre for Computational Brain Research
- Center for Non Destructive Evaluation
- Centre for Innovation
- Centre for Railway Research
- Health Care Innovation Centre (HTIC)
- IIT Madras Bioincubator
- Indo-German Centre for Sustainability
- National Cancer Tissue Biobank (NCTB)
- National Centre for Combustion Research and Development (NCCRD)
- Robert Bosch Centre for Data Science and Artificial Intelligence

# Co-Curricular Activities

## CENTRE FOR INNOVATION (CFI)



“Walk in with an idea, and walk out with a product” **Centre For Innovation**

Centre for innovation (CFI) is the 'Student Lab' at IIT Madras. He industrious student innovators are connected, coached, and supported to nourish their skills and ideas to fully fledged projects going on to compete in National and international Competitions. Some of the Technical Clubs, students are involved in include:

- 3D Printing Club
- Aero Club
- Horizon Club
- Electronics Club
- Sahaay
- Product Design Club
- Web-Ops & Blockchain Club
- iBot Club
- Programming Club
- Team Envisage

Techsoc - TechSoc is responsible for conducting year long technical events and competitions for the general student body with a combined footfall of nearly 2000 and aims to foster technological innovation and entrepreneurship within the campus. TechSoc is also in-charge of the selection & management of contingents for inter-IIT tech meet and ensuring IIT Madras's participation in the tech meet.

## AI CLUB

This club serves as the stepping stone to Analytics, connecting all students interested in Data Crunching to acquire necessary Statistical and Computational skills to draw meaningful conclusions from Data. They provide opportunities for students to pursue their interest in analytics through projects, workshops, lectures by prominent personalities from the industry and weekly sessions regardless of prior knowledge or experience.

## CASE CLUB

Case club was established in 2021 with a vision to improve the problem-solving culture in the institute. The club believes that the essence of solving cases is the way beyond preparing for consulting interviews and is necessary to develop a structured thought process and thus become an efficient problem solver. The club aims to incorporate this essential 21st skill in students through its various initiatives and activities ranging from mini-courses to unique case competitions to webinars and much more.

## FINANCE CLUB

It is a student-run initiative that provides a perfect platform for students to hone the skills required to make a mark in the Financial Sector. Hosts of various webinars and keynote lectures where renowned speakers such as Harsh Patel, Mr.Sandeep Das, WazirX and DStreet Games, a startup founded by IITM alumni, help participants get updated with the current scenario of the financial world,educated about the nuances of Investments and Financial Markets, handle a virtual portfolio and identify current career opportunities in this sector.

## RAFTAAR



FORMULA BHARAT 2021: Team Raftar Formula Racing from CFI came over all first in the competition, continuing the legacy from the previous year. The team scored the first rank in engineering design and eighth rank in business model.

## ABHIYAAN



INDY AUTONOMOUS CHALLENGE: Team Abhiyaan cleared the first 3 rounds for the INDY Autonomous challenge and succeeded in reaching Hackathon 4 in which multi -vehicle test runs were held in racing scenarios. The team also came first in the social media challenge of INDY Autonomous Challenge.

## AVISHKAR



EUROPEAN HYPERLOOP WEEK (EHW): It is an international Hyperloop event that will bring together the most competitive part of prototype construction, with the part of visibility and conferences. Team Avishkar Hyperloop has submitted their first application for competition and has qualified for the further rounds.

## ANVESHAK



After placing 5th and 8th respectively in the Indian Rover Challenge 2020 and the qualifying round of the University Rover Challenge 2021, Team Anveshak ventured into online competitions in the last academic year. We placed 7th in the Indian Rover Design Challenge 2020 and 12th in the International Mars Hackathon 2021, amongst competing teams from many countries. We also placed 4th in the qualifying round of the European Rover Challenge 2021 Remote Version in our very first attempt.

## ABHYUDAY



Abhyuday, the rocketry team of IIT Madras, is the first student team in the institute to focus on Sounding Rockets. They pioneer indigenous hybrid rocket propulsion and unique recovery mechanisms. Notably, they designed a dynamic testing platform and participated in the Spaceport America Cup, the first IIT team to do so. They are also expected to excel in the CANSAT India competition.



## SHAASTRA



A student-run annual technical festival which is the first such event in the world to be ISO 9001:2015 certified for implementing a Quality Management System. Shaastra is the annual technical festival of IIT Madras. A plethora of events, hackathons, competitions, summits, lectures, video conferences, exhibitions and workshops are held over a span of 4 days. Many eminent academicians, industry leaders, scientists & innovators visit Shaastra to deliver lectures and introduce students to the cutting-edge research happening in various fields across the world.

## SAARANG



Saarang is the annual, non-profit, student-run-cultural festival of IIT Madras with the ISO certification of ISO 9001:2015 organisation, making it the only one of its kind amongst college festivals. It includes enthusiastic participation in Choreo, Debate, Dramatics, Music, Professional Shows, to name a few, by more than 50,000 college students across the country.

## SPORTS



Here at IITM we value the importance of good health and have a good sporting culture with inter hostel schroeter's and institute wide tournaments with active participation from students side . There is a sports organising committee run by students with specific clubs for each sport IITM has shown top level performance in Inter IIT and winning championship for the past few years.

## 180 Degrees Consulting



The 180 Degrees Consulting Club at IIT Madras is a trailblazer in providing pro bono consulting services to non-profit organizations, social enterprises, and startups. Driven by a shared passion for creating meaningful change, the club collaborates closely with its clients, offering invaluable insights and implementing strategies that drive sustainable growth and positive social impact. Assisted numerous organizations across diverse sectors, ranging from education and healthcare to environmental sustainability and poverty alleviation.

## ShARE



Student-run Management Consulting chapter providing business consultancy to globally acclaimed firms. ShARE students work on real corporate cases and are trained by ex-consultants from BCG and McKinsey.

## MEDIA BODIES OF IITM

### The Fifth Estate



The Fifth Estate, or T5E, is IIT-M's student-run news body, which consistently brings out a plethora of articles, news pieces, op-eds and photo series on its website and social media handles featuring various topics and issues for its reader base. T5E's readership includes students, faculty, alumni, the press and the general public.

### Chennai 36



Chennai36, with the motto 'Connect. Converse. Convey', is the Student-Alumni blog of IIT Madras that strive to connect with all the members of the IIT-M fraternity and promote the exchange of ideas, experiences, be it Placements, Interns, Graduate Studies, Exciting Research, or life in Insti in general.

## SOCIAL ENDEAVOURS

### Enactus



One of the chapters of global Enactus network based out of IITM collaborating with industry leaders such as KPMG and Flying Cobbler for innovative social interventions.

### Avanti



Proud Recipients of Stanford BASES Social E-Challenge and Pan IIT Alumni India initiative, broadening education to students from low-income families.



A student run organisation serving as a platform to discuss and find a solution to the issues of the socially underprivileged.

## Extra Mural Lectures



EML is the flagship lecture body of IIT Madras that focuses on enhancing the learning of the students beyond the classroom. It has given students the opportunity to interact with distinguished people like Dr. APJ Abdul Kalam, His Holiness Dalai Lama, Mr. Kailash Satyarthi, Sri Sri Ravi Shankar, Mr. A R Rahman, Mr. Viswanathan Anand and several others. The sessions are in the form of interactive lectures, debates, and discussions around topics concerning science, arts, culture, and society, aiming at covering as diverse fields as possible.

# Entrepreneurship in IIT Madras

## E-Cell



ECell imbibes the spirit of entrepreneurship in students and faculty community from various colleges across India, inspiring and encouraging them to take on entrepreneurial challenges and assist them in their efforts to launch and run business ventures.

It has a plethora of yearlong events like Conclaves, Keynotes, Industry- Defined Problems, B-Planning Competitions and Workshops.

Its annual entrepreneurship fest. E-Summit is going to be the first student-run ISO Certified Entrepreneurship Event from this year on as well.

## The Centre for Social Innovation & Entrepreneurship



CSIE works with institutes like Tata Institute of Social Sciences, CIE of IIMA, Centre for Innovation in Public stems (Hyderabad), the UN Global Compact and the Ateneo School of Government (Philippines) Research providing the first steps of social entrepreneurship to students.

## NIRMAAN



Nirmaan focuses on product development and encourages entrepreneurial ideas by providing seed funding for the startups led by students. It assists those with an idea on every step involved in converting the idea into a full fledged incubated startup. It acts as a platform for series of conferences and networking opportunities with top notch entrepreneurs and venture capitalists.

Nirmaan has seen over 20 groups pass through the program in various business domains including edu-tech, agri-tech, consumer products and advanced technology solutions with some raising Cover I Million USD till date.



## NeoMotion

IIT MADRAS Incubated Start-up



Merkel Haptics (first haptics company in India exclusive for touch related technologies, pioneer in providing 3D touch technology solutions).



Energy is the brainchild of IITM graduates Tarun Mehta & Swapnil Jain a startup that unveiled a smart, electric scooter. named the \$340 that became India's first Electric scooter.

## IITM Research Park



The IIT Madras Research Park is a national pioneering effort to catalyze collaborative research between industry and academia and enable technological innovation and nurture entrepreneurship. It houses the R&D and innovation wings of industry majors engaged in collaborative research and technology transfer with the faculty. The major incubation cells under the IITMRP are:

## Incubation Cell - IC



IITM IC seeks to nurture technology and knowledge based ventures through their startup phase by providing the necessary support to help entrepreneurs survive in the competitive market and reach a stage where they can scale-up their ventures further.

## Rural Technology and Business Incubator (RTBI)



The RTBI uses business Incubation as a strategy and methodology for rural and social development through capacity building, income generation and services and has since incubated over 30 companies. These ventures are leading dissemination of world class technology to solve some of rural India's most difficult problem such as power water and education.

## Bio - Incubator



With the objective of fostering Indian biotech innovation and entrepreneurship, it aims to help startups develop globally competitive products and attain commercialization it falls under the purview of IIT Madras Incubation Cell (ITMMIC)

Currently houses 12 start up companies in the fields ranging from Bio fertilizers to Bio Informatics.



amazon

Past Recruiters

Microsoft SAMSUNG

McKinsey & Company



BCG

Goldman Sachs

Morgan Stanley

JPMorgan Chase

accenture

Arthur D Little

Dalberg

Deloitte.



Deutsche Bank

AMERICAN EXPRESS

citibank

pwc



EY



BNY MELLON



Qualcomm

Schlumberger

HSBC

Google

NVIDIA



ICICI Bank

BLACKBUCK

alphonso  
The TV Data Company

Halma

intel

TEXAS INSTRUMENTS

Honeywell

Standard Chartered

Futures First

DA ENGINEERING VINCI

BAJAJ

HONDA



CISCO

OLA ELECTRIC

ATHER



Groww

Flipkart



publicis sapient

FINMECHANICS

AIRBUS

BOEING



EXL



WELLS FARGO

sprinklr

# Placement and Internship Procedure

## REGISTRATION

The Office sends invitations to companies along with relevant links. Companies interested in recruitment are to register with Placement and Internship Office via the online portal of Training and Placement Office.



1

## ONLINE ERF

Companies fill in all the required fields of the Employer Registration Form (ERF).ERF once accepted and opened to students cannot be modified.



2

## PORTAL VISIBILITY TO STUDENTS

Companies can access the resumes of interested students in the online portal . If interested, companies can conduct Pre-placement talks. Pre placement talks are subject to availability of slots.



3

## TEST PROCEDURE

Written or Online tests can be conducted by the companies up until November for Phase 1. The student representatives will help the companies in finding a slot of mutual convenience and availability.



4

## SLOTING FOR INTERVIEW

An internal Date Allotment committee comprising faculty, students and other stated members as per Policy decide campus interview dates of all registered companies.



5

## INTERVIEW PROCEDURE

Placement interviews start on December 1st, 2023 and whereas Internship interviews start in the month of August and go on for the entire semester. Companies are required to submit the number of selected students to the Placement Office by the end of each slot. Companies can also submit a waitlist if desired. Offer letters are to be sent to the Placement Office before the end of March.



6



# Placement and Internship Cell

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Placements: <https://placement.iitm.ac.in/>  
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[Link to the file](#)

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