Disclaimer

Though the ISCP (Institute Student Companion Program) has taken care while compiling the handbook, neither the council nor the Institute can be held responsible for errors/inadequacies that may inadvertently creep in. This handbook cannot be used as a basis for making a claim on facilities/concessions/interpretation of rules/statues or the like. If there is some critical information to which the reader of this handbook refers, it is with his or her own responsibility that it is put to use, with cross verification if need be.
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Welcome Note from Head of the Department

Dear Incoming M.Tech. and Ph.D. students,

It gives me great pleasure in welcoming you to the department. Our M.Tech. programme with five specializations has courses designed to impart advanced technical skills. We host the center for excellence in steel technology with an emphasis on current research in steel and process engineering. We also host an industry-oriented programme called Material Modelling and Manufacturing. The Ph.D. programme is broad based and will cater to student’s expectations. You will surely find one area of interest to your liking and thus hone your preferred technical skills. In recent times our research output has increased significantly and it is seen that M.Tech. students are also contributing to this effort.

Increased funding has resulted in augmenting our laboratory facilities in the department and these are meant to give you hands-on experience. These hands-on laboratory experience will add to the quality of institutional training.

You have made the right choice in joining the M.Tech. and Ph.D. programme of the Department of Metallurgical Engineering & Materials Science, IIT Bombay. Please interact with our faculty members to learn more about the exciting opportunities the department offers to all our students and thus further your career.

Welcome to MEMS, IIT Bombay.

N. Venkataramani
Head of the Department
Welcome Note from Institute Students Companion Programme (ISCP)

Hello, Friends!

We hope you are just excited to be a part of IIT Bombay as we are. Heartfelt congratulations on this incredible feat! Institute Students Companion Program (ISCP) welcomes you to one of the most resourceful campuses in India. The next two or three years are going to be the most memorable, impactful, insightful and life changing years which will fly past. We hope you imbibe as much as you can and more from your peers, seniors, faculty and staff. Here’s to your first glimpse of ISCP, the backbone of your journey through the mecca of learning.

ISCP is a program within IIT Bombay Post Graduate (PG) student community. Its primary objective is to develop an atmosphere of cordial interaction amongst the PG entrants and the PG seniors. It will encourage the flow of information, knowledge, and sharing of experiences among the students. Life in IIT Bombay can appear a little daunting at times, balancing between the academic workload and the plethora of extra-curricular activities. And that is where ISCP can help you blend in and make the most of it. ISCP strives to provide a senior student companion as a mentor to all newly admitted students. New entrants can contact their assigned companion to discuss their academic and non-academic issues or concerns.

Student Companions enable the smooth and gentle transition from the graduation days to post-graduation days. New entrants also feel assured that there is somebody on campus to help them and listen to their concerns. Many a times they find a caring friend in companions.

What to expect from a Student Companion:
● Initial information about the campus, courses, academics and extracurricular activities.
● Support in case of any problem or difficulty.
● Organization of various academic and non-academic activities for student’s development.
● Continuous interaction and feedback from students on their needs and requirements.

In short, this is a program by the students of IIT Bombay, for the new students to ensure their overall development through utilization of all the available resources at IIT Bombay.

Let the learning begin. Feel free to contact us anytime!

Email: iscp@iitb.ac.in
Overall Coordinators
Institute Student Companion Programme (2018-19)
Anwesha Lahiri (+91-9007766390), Sumedh Dey (+91-9432152174), Basudev Behera (+91-7008955255)

Welcome Note from Post-Graduate Academic Council (PGAC)

Dear Freshmen,

On behalf of all the Master’s students at IIT Bombay, it is my honour to welcome you all here. Congratulations on having made it to one of the premier technical institutes of the country. You are now a part of the IITB PG community and there are an exhaustive number of services and facilities available to ensure a fruitful educative experience. As post graduate students, you have already been exposed to university level education. While you will delve deeper into understanding your area of interest better, I urge you to explore more. There are several student led bodies on campus focusing on development of skills, sports and extracurricular activities such as dance, drama, music, etc. Your experience will be what you make of it, and your opportunities will be limited only by the limits you place on yourself. Utilize the opportunities to the best of your ability. Along with academics, do explore and make the most of the excellent facilities the institute has to offer. As the Institute Masters Representative, my team and I, aim to address your grievances and help you to the best of our abilities. Supporting you in your academic endeavours is our foremost priority and we will strive to improve the IITB experience in all the ways we can. On this note, I, once again, welcome you to IIT Bombay and wish you every success in your future endeavours.

Jasmeen Kaur
Institute Masters Representative
PG Academic Council
IIT Bombay
email: imr@iitb.ac.in
Lab Facilities

Execution of the research plans requires both personnel and facilities. The department has achieved major strides in acquiring as well as developing state-of-the-art facilities for materials processing and characterization. The department has over 25 laboratories and is considered one of the best in India.

Some of the major materials processing facilities include:
1. Multi chamber cluster tool unit for Semiconductor thin film processing
2. Electro-slag Refining
3. High Temperature and Energy Material
4. MOCVD
5. Micro-compounder & extraction
6. Plasma spray
7. Tape casting
8. Horizontal continuous casting
9. Pulsed laser deposition

Some of the important materials characterization facilities available in the department:
1. SEM/EDAX
2. XRD with high temperature
3. DSC/DTA
4. OIM/SEM/XRD (National facility)
5. Mechanical Testing systems
6. FTIR, UV-Visible, AAS
7. Surface area analyzer
8. Microscopes
9. Magnetic measurements unit
10. Tribometer

Apart from the above, MEMS department also houses a high performance computing (HPC) cluster to assist in modelling and simulation-based studies. Apart from above, students can also use the facilities under SAIF, IRCC, CEN, NCPRE.
Other Facilities in the Department

Department Library

The Department of MEMS at IIT Bombay boasts of having one of the finest collections of books in the field of Metallurgy and Materials Science. We have various journals from all round the world to satisfy the ever growing curiosity of our students. We have an exquisite collection of books which is open to all the students and faculty for referencing and providing useful insights into the cutting edge technology in the world of Materials Science. It is located in the first floor of MEMS department (opposite to elevator). The library also contains a collection of doctoral and master’s thesis of students passing out every year. The department library is open from 9:30 am to 5:30 pm. Research Scholars can issue the books available in the library.

Computer Room

MEMS department has a computer room equipped with the latest hardware and software to handle the needs of the students as well as the faculty. The computer room is located on the first floor of the department opposite the department library. Prof. Amartya Mukhopadhyay is the in-charge faculty of the computer room. The computer room is open from 8:30 am to 12:00 am.

Academic Resources

Access to DoITPoMS micrograph library, video library and study modules, Complete access to ASTM standards, Access to ASTM journals, articles, reports and booklets, Springer journals and articles, Wiley journals and articles, Science Direct Online research paper repository etc.

Room booking system

Rooms in the department can be booked for various purposes like group meetings and seminars. The rooms should be booked well in advance and should not conflict with any regular meetings. The booking can be done through the department office by faculty and office people only (Mr. Tarish Bairam).

Faculty Members and Their Fields of Research

Permanent Faculty

Prof. Ajay S. Panwar
panwar@iitb.ac.in
Multiscale molecular modelling of self-assembly in macromolecular systems, Macromolecular transport in micro and nano scale channels, High performance computing for macromolecular and composite systems

Prof. Ajit R. Kulkarni
ajit.kulkarni@iitb.ac.in
Lead free ceramics and piezoelectrics: Bulk, nanostructured and thin films, Impedance spectroscopy for material characterization, Solid electrolyte for sensor and battery (glass, glass-ceramics, polymers and gels), Synthesis-Structure-Property correlation in materials

Prof. Amartya Mukhopadhyay
amartya_mukhopadhyay@iitb.ac.in
Materials for electrochemical storage and conversion, Carbon nanotube reinforced composites, Advanced structural ceramics, ultra high temperature ceramics and ceramic nanocomposites, Stress determination in thin films, Tribology of materials

Prof. Amrita Bhattacharya
b_amrita@iitb.ac.in
Computational materials science, Charge and heat transport, Defects in semiconductors, Strongly correlated materials, Machine learning

Prof Anirban Patra
anirbanpatra@iitb.ac.in
Computational materials, Mechanics, Crystal plasticity, Finite element modeling, Radiation damage
Prof. Aparna Singh
aparna_s@iitb.ac.in
Fracture, fatigue and tribology Synthesis methods of nanostructured materials in bulk, Nanostructured coatings, Microstructure characterization Damage tolerance of materials used in renewable energy technologies, Biomedical implants, prosthetics and polymer encapsulation, Back-end processing in microprocessor fabrication.

Prof. Arup Ranjan Bhattacharya
arupranjan@iitb.ac.in
Polymer blends
Polymer Nanocomposites

Prof. Ashutosh S. Gandhi
agandhi@iitb.ac.in
High temperature protective coatings (environment and barrier coatings)
Materials for Energy systems (Fuel cells and SOFCs), Phase stability and Transformations, Surface Engineering, Zirconia ceramics, Metastable effects and amorphous phases

Prof. Aswani Yella
aswani.yella@iitb.ac.in
Nanostructured materials for photovoltaic applications, Hybrid materials for light harvesting, Molecular electronics, Dye/semiconductor sensitized solar cells

Prof. Avradeep Pal
avradeep@iitb.ac.in
Josephson junctions Superconductor-ferromagnet interactions (Superconducting Spintronics) Tunneling spectroscopy, Growth of thin films, UHV systems and nano-fabrication, Graphene mesoscopics

Prof. B N Jaya
jayaballa@iitb.ac.in
Mechanical behavior of materials Nanoindentation and Nano-/micro-mechanics Interface engineering and design of damage tolerant brittle matrix composites Electro-thermo-mechanical failure in thin films, hard coatings and semiconductor device materials Elastic strain engineering of functional oxide nanostructures

Prof. Dipti Gupta
diptig@iitb.ac.in
Flexible/Plastic Electronics based on Organic semiconductors, metal oxides and Graphene, Devices for Energy and Biomedical applications, Devices under focus: Solar Cells, Thin film transistor and sensors, Printed Electronics

Prof. Indradev Samajdar
indra@iitb.ac.in
Crystallographic texture, Microstructural engineering, Thermomechanical processing

Prof. K. Narasimhan
nara@iitb.ac.in
Sheet metal forming, Superplasticity, Modelling and Simulation

Prof. Manish M. Pande
manish.pande@iitb.ac.in
Steelmaking Steel Cleaness
High Temperature Experimentation and Metallic Foams

Prof. Aparna Singh
aparna_s@iitb.ac.in
Fracture, fatigue and tribology Synthesis methods of nanostructured materials in bulk, Nanostructured coatings, Microstructure characterization Damage tolerance of materials used in renewable energy technologies, Biomedical implants, prosthetics and polymer encapsulation, Back-end processing in microprocessor fabrication.

Prof. Arup Ranjan Bhattacharya
arupranjan@iitb.ac.in
Polymer blends
Polymer Nanocomposites

Prof. Ashutosh S. Gandhi
agandhi@iitb.ac.in
High temperature protective coatings (environment and barrier coatings)
Materials for Energy systems (Fuel cells and SOFCs), Phase stability and Transformations, Surface Engineering, Zirconia ceramics, Metastable effects and amorphous phases

Prof. Aswani Yella
aswani.yella@iitb.ac.in
Nanostructured materials for photovoltaic applications, Hybrid materials for light harvesting, Molecular electronics, Dye/semiconductor sensitized solar cells

Prof. Avradeep Pal
avradeep@iitb.ac.in
Josephson junctions Superconductor-ferromagnet interactions (Superconducting Spintronics) Tunneling spectroscopy, Growth of thin films, UHV systems and nano-fabrication, Graphene mesoscopics

Prof. B N Jaya
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Mechanical behavior of materials Nanoindentation and Nano-/micro-mechanics Interface engineering and design of damage tolerant brittle matrix composites Electro-thermo-mechanical failure in thin films, hard coatings and semiconductor device materials Elastic strain engineering of functional oxide nanostructures

Prof. Dipti Gupta
diptig@iitb.ac.in
Flexible/Plastic Electronics based on Organic semiconductors, metal oxides and Graphene, Devices for Energy and Biomedical applications, Devices under focus: Solar Cells, Thin film transistor and sensors, Printed Electronics

Prof. Indradev Samajdar
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Crystallographic texture, Microstructural engineering, Thermomechanical processing

Prof. K. Narasimhan
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Sheet metal forming, Superplasticity, Modelling and Simulation

Prof. Manish M. Pande
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Steelmaking Steel Cleaness
High Temperature Experimentation and Metallic Foams
Prof. M.J.N.V. Prasad
mjnvpasad@iitb.ac.in
Mechanical behavior of materials
Electrodeposition and Alloy development
Nanocrystalline, amorphous, and implant
materials Composites, and
Protective coatings Microstructural Investigation

Prof. M P Gururajan
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Modelling of microstructural evolution
Atomistic (Monte Carlo and Molecular dynamics) and continuum
(phase field modelling) models
Phase transformations Deformation and phase transformation
induced microstructural changes

Prof. N.N. Viswanathan
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Blast furnace modelling, Transport phenomenon, Process Metallurgy

Prof. N Prabhu
nprabhu@iitb.ac.in
Phase transformations, Structure Property relationships, Electron Microscopy

Prof. Prita Pant
pritapant@iitb.ac.in
Mechanical behaviour of thin films, Dislocation dynamics simulation
of deformation, Nanoindentation studies of heterogenous
deformation in metals, Ni- Ti based shape memory materials

Prof. N. Venkataramani
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Ferrimagnetics- bulk and thin film, Electronic materials, Structure
property correlations in nanocrystalline systems

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Mineral processing, Instrumentation

Prof. Parag Bhargava
pbhargava@iitb.ac.in
Powder Processing, Gel casting, Rapid
Prototyping, Near net shape forming of advanced ceramics, Rheology
of suspensions, Ceramic composites, indentation cracking of
ceramics, Quantitative microscopy

Prof. Prakash Gopalan
pgopalan@iitb.ac.in
Experimentation concerning use of high temperature ionic
conductors like lithium and solid sulphate in solid state batteries at
room temperatures, Growth and characterization of oxide materials
for GMR applications

Prof. Prakash Gopalan
pgopalan@iitb.ac.in
Experimentation concerning use of high temperature ionic
conductors like lithium and solid sulphate in solid state batteries at
room temperatures, Growth and characterization of oxide materials
for GMR applications

Prof. V Prabhu
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Blast furnace modelling, Transport phenomenon, Process Metallurgy
Synthesis and characterization of amorphous and nanocrystalline thin films of semiconductors and alloys. Silicon nanodevices for thin film solar cells and transistors for flat panel displays. MEMS devices, Nuclear detection, Plasma processing and surface nano-engineering.

Prof. Satish Vitta
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Prof. Shobha Shukla
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Nanophotonic devices
Nanomaterials,
Metamaterials,
Plasmonic devices

Prof. Smrutiranjan Parida
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Corrosion and mitigation, Electrochemical nanostructuring, Functional application of nanostructured metals and alloys.

Prof. Somnath Basu
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Metal refining
Thermodynamics
Slag-Metal Interaction
Continuous casting

Prof. Rajiv O. Dusane
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Ab-initio calculations of electronic and structure properties of materials, Nanostructured materials and their applications, Carbon based materials such graphene, nanotube and graphite intercalated materials, Time dependent ab-initio calculations for photovoltaic applications.

Prof. Sudhanshu Mallick
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Prof. Sumit Saxena
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Thermoelectric metrology and instrumentation, Physics of heavily doped semiconductors.

Prof. Titas DasGupta
titas.dasgupta@iitb.ac.in

Hermoelectric material and devices
Thermoelectric metrology and instrumentation, Physics of heavily doped semiconductors

Prof. T. R. S. Prasanna
prasanna@iitb.ac.in

Materials for solid oxide fuel cells, composite electrolytes, electrode materials, Theoretical materials science, Role of thermal vibrations in phase transitions

Prof. V. S. Raja
vsraja@iitb.ac.in

Structure-processing-corrosion property relation, Light metals, Graded coatings, Failure analysis. Electrochemical impedance spectroscopy, Stress corrosion cracking, High temperature and pressure aqueous corrosion, Weld related corrosion

Prof. Shobha Shukla
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Sahajal and advanced utility, Solar photovoltaics, Photovoltaic materials and technology, Nanotechnology in energy applications.
Emeritus Professor

Prof. N. B. Ballal
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Transport phenomena applied to materials processing
Process Modelling, Physical Chemistry
Process development in iron and steel, processing and casting
Development and transfer of technology for Electro-slag refining of special alloys to the industry. Traditional metallurgical practices and the history of iron making technology in India.

Visiting Faculty Member

<table>
<thead>
<tr>
<th>Visiting Faculty</th>
<th>email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rajiv Asthana (Adj.Prof)</td>
<td><a href="mailto:rajiv.asthana@iitb.ac.in">rajiv.asthana@iitb.ac.in</a></td>
</tr>
<tr>
<td>Bhanumurthy K</td>
<td><a href="mailto:kbhanumurthy@iitb.ac.in">kbhanumurthy@iitb.ac.in</a>,</td>
</tr>
<tr>
<td>J. Rangarajan</td>
<td><a href="mailto:rang123jr@iitb.ac.in">rang123jr@iitb.ac.in</a></td>
</tr>
<tr>
<td>Patil D.S</td>
<td><a href="mailto:dspatil@iitb.ac.in">dspatil@iitb.ac.in</a></td>
</tr>
<tr>
<td>Balu Pathangey</td>
<td><a href="mailto:bpatha10@iitb.ac.in">bpatha10@iitb.ac.in</a></td>
</tr>
<tr>
<td>R. Gaurishanker(Adj.Prof)</td>
<td><a href="mailto:gaurishanker@iitb.ac.in">gaurishanker@iitb.ac.in</a></td>
</tr>
</tbody>
</table>

Dist. Visting Faculty Member

<table>
<thead>
<tr>
<th>S. Seetharaman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roger Doherty</td>
</tr>
<tr>
<td>Sanjay Sampat</td>
</tr>
</tbody>
</table>
Role of Faculty Advisor:
Each academic year, a batch of student is allocated a faculty advisor. As the name suggests faculty advisor will be the person responsible for all your matters related to academic performance and the courses they may take in various semesters and most importantly he will be the person responsible for your grievances related to short-attendance/leave applications etc. the basic motto of having faculty advisor is to extend guidance to the students enabling them to complete their courses of study for the required degree in a smooth and satisfactory manner. To have an academic accomplishment and to plan smooth academic journey faculty advisor’s role can’t be overlooked.

List of Faculty Advisors:
MM 1 – Materials Science: Prof. A.S. Gandhi
MM 2 – Process Engineering: Prof. M.P. Gururajan
MM 3 – Steel Technology/ MMM –Material, Modelling and Manufacturing: Prof. K. Narasimhan
MM 4 – Corrosion Science & Engineering: Prof. S. Parida
Faculty Coordinator for Ph.D.: Prof N. Prabhu

Role of DPGC:
DPGC or Departmental Post-Graduate Committee is a group of Guides appointed by department mostly consists of faculty members. All the grievances of particular department related to academics have been heard and resolved by them. DPGC gives feedback to PGPC (Post Graduate Programme Committee) to curb academic programme of the Institute and keep pace with current development in science and technology which further makes the suitable recommendation for the Senate to approve.

List of DPGC of MEMS
Prof. Titas Dasgupta
Prof. K. Narasimhan
Prof. Prita Pant
Prof. A. Patra
Prof. Amrita Bhattacharya
Prof. I. Samajdar

Important Persons in Department Office
Name : Designation
Lathika Das : Superintendent (Dept Office)
Meena V. Sadalgekar : Superintendent (Dept Office)
Naresh R Ingale : Clerk Typist (Dept Office)
Tarish Bairam : System Administrator
Anusuiya Soni : Jr. Administration Assistant

Departmental Organisations:
The Research Scholars of Metallurgical Engineering and Materials Science Department has three major student organizations:

1. Metals & Materials Association (MMA):
The Metals and Materials Association, IIT Bombay is an organization of students, faculty, staff and alumni of the Department of Metallurgical Engineering and Materials Science. The major objective of MMA is to work together for elevating and propagating awareness in field of metallurgical engineering through a wide spectrum of activities and events.

2. Dhatuki:
Dhatuki is the technical magazine of the department of Metallurgical Engineering and Material Sciences of IIT Bombay. It has been conceptualized to showcase the latest in materials technology and research with contributions from eminent personalities and research organizations.
ISCP Members from MEMS:

Departmental Coordinator

Kshitij Gupta
kshitijgupta1993@gmail.com
9591861688

List of Student Companions

Ashwin Kumar Jain
ashwinjain14@gmail.com
9407526014

Avinash Kumar Mishra
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9807707493

Anish Mukhopadhyay
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9163737017

Virendra Singh
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9012711765

Pranay Ketan Behera
pranayketan@gmail.com
7415484163

Md Salim
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9504866838

Representatives at Institute level from MEMS:

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Company Coordinator
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Company Coordinator
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Harish Gabale
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9564345686

Saurabh Kumar Singh
Saurav1035@gmail.com
9151494149

Rakshit Verma
rakshit23071994@gmail.com
8989160094

Student Web:

1. IITB Internet Access:
   Link: https://internet.iitb.ac.in

   Purpose and Procedure: Your roll number will be provided to you during institute orientation with welcome kit. You should remember this 9 digit roll number. You will get an LDAP id which you can use to browse the internet. The default id is your roll number and default password is your date of birth and you can change it later.

2. Application Software Centre (ASC) – Administration
   Link: http://asc.iitb.ac.in/

   Purpose: This website is the main interactive website for a student for all of his/her administrative requirements. From paying your fees to checking your grades, all can be done on this website. The website also has links to all other websites of the institute. Some of the most important facilities offered by this website are given under:
   - Payment of fees
   - Registration and de-registration from courses
   - Checking previous year’s grading stats for any subject
   - Brief contents of all subjects being offered
   - Own personalised timetable
   - Checking of own academic performance (grades)
3. Moodle – Academics
Link: http://moodle.iitb.ac.in

Purpose: This website provides academic interaction between students and faculty for all courses enrolled by a student. You can download study material/ books/ notes uploaded by a professor/ TA and also submit projects etc here. The website also offers an interaction platform where you can interact with the Professor/ TAs/ other students on any subject related matter.

4. GPO – Mailing interface
Link: https://gpo.iitb.ac.in/src/login.php?secure_login=yes

Purpose: This is your personalised e-mail in IIT. Every student gets one when you enrol. Along with normal mail, here you also get alerts for registration/ deregistration of courses, fees payment and any broadcast on moodle among others. The general email id looks like: [yourrollnumber]@iitb.ac.in

5. Dept Website :
http://www.iitb.ac.in/mems/en

Purpose: Any activity happening in the department be it formals like steel symposium, poster presentation to informal like kurta day everything will get updated on the website. To get an update of present research happening inside the department. To know your department research facility and faculty.

6. Central Library
Link: http://www.library.iitb.ac.in/

Purpose: The website for the central library offers a search engine for books available in the library. You can also check the number of books issued at any given time, renew them and “queue” up for any book already drawn by some other individual.

7. Maintenance Complaint Portal –
Link: https://support.iitb.ac.in/support/login.jsp

Purpose: This website helps you to register any hostel related complaints like tube light not working, bed bug, leaking tap, water cooler not working. Just login through your LDAP id and password, chose category and submit.

8. Room booking System –
Link: https://gymkhana.iitb.ac.in/~hostels/portal/GABS/index.php

Purpose: You can book room for your family and friend. There is cap of 5 days on family member and 2 days for non family member. Login using LDAP id and password and fill the basic detail of guest and upload scan copy of identity card of the guest.

9. Rules for M.Tech. :
http://www.iitb.ac.in/newacadhome/MTechRulesupdate201821June.pdf

Purpose: To understand the rules for Mtech from admission like registration, course adjustment, credit system, course drop, financial support, grade system, performance requirement etc.

10. Rules for Ph.d. :
http://www.iitb.ac.in/newacadhome/phdRules.pdf

Purpose: To understand the rules for Ph.D. like admission, registration, course structure, course assessment, synopsis and thesis submission, and evaluation etc.

11. Academic Calendar :
http://www.iitb.ac.in/newacadhome/Academiccalender11062018.pdf

Purpose: Provides dates from registration to the end semester and covers all important dates in between.
Worth Knowing:

CPI System:

Like most of the engineering colleges IIT Bombay also follows Grade Point system here which is known as CPI system (Cumulative Performance Index). For every course taken by the students, he/she is assigned a letter grade on his/her combined performance in all the assessments. These grades are described by the following letters and corresponding grade points.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Point</th>
<th>Letter Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>10</td>
<td>FR**</td>
<td>0/Fail (Repeat the course)</td>
</tr>
<tr>
<td>AA</td>
<td>10</td>
<td>DX***</td>
<td>Fail due to lack of attendance</td>
</tr>
<tr>
<td>AB</td>
<td>9</td>
<td>II#</td>
<td>Incomplete</td>
</tr>
<tr>
<td>BB</td>
<td>8</td>
<td>DR</td>
<td>Dropped</td>
</tr>
<tr>
<td>BC</td>
<td>7</td>
<td>PP</td>
<td>Passed</td>
</tr>
<tr>
<td>CC</td>
<td>6</td>
<td>NP</td>
<td>Not Passed</td>
</tr>
<tr>
<td>CD</td>
<td>5</td>
<td>AU##</td>
<td>Audit</td>
</tr>
<tr>
<td>DD*</td>
<td>4</td>
<td>FF###</td>
<td>0/Fail</td>
</tr>
</tbody>
</table>

*DD Grade

Minimum passing grade in a course is DD.

**FR Grade

The letter grades FR shall be treated as failure grades. FR grade may also be awarded in cases of minor malpractice in examinations/ assessments. A student, whose in-semester performance is very poor, may be awarded the ‘FR’ grade by the instructors, even if he/she had missed the end-semester examination due to any reasons. After such re-examination if the student passes in that course, he/she will be awarded the maximum grade of DD in that course. If a student does not take or fails in the re-examination, he/she will be awarded the grade FR. A student getting a FR grade has to re-register for the same course if it is a core subject. If this course is an elective course, he/she may register for an alternative course as prescribed by the DPGC/ IDPC/SPGC, without this being counted as an additional courses.

###FF Grade

If a student either does not submit his seminar report by the prescribed date or he/she is absent for presentation on the scheduled date he/she shall be awarded FF grade unless he/she is given extension by the coordinator under exceptional circumstances. Re-examination may be permitted for a course if he/she obtains FF grade.
***DX Grade

The grade DX in a course is awarded if a student does not maintain the attendance requirement in the Lecture/Tutorial classes. The DX grades may also be awarded to the students having bad or incomplete in-semester records on non-medical reasons. The DX grade will be declared in the first week of November for the Autumn Semester Courses and in the first week of April for Spring Semester Courses (in general one week before the semester end exams). A student with DX grade in a given course is not permitted to take the semester-end examination in that course. Such a student has to re-register for the same course whenever offered. DX Given to students with attendance shortage. This does not count in the SPI / CPI. However it will be counted as a backlog.

# Incomplete Grade (II)

Grade ‘II’ is awarded in a lecture/lab course if a student has satisfactory in-semester performance, but has not appeared for the end-semester examination on medical grounds. The student is entitled for 50 marks re-examination given at the end of the particular semester. ‘II’ grade will be converted into a performance grade (depending on the overall performance in the course) after the re-examination.

## Audit Grade (AU)

The student registered for a course as audit shall be awarded the grade AU if they fulfill the requirement of minimum of 80% attendance and duly satisfactory in-semester performance as prescribed by the Instructor. The Instructor shall include such AU grades in the final grade report for that course. If the student does not qualify for the grade AU, it will be assumed that the course has been dropped by that student.

Dropping of course(s)

If any student finds his course load to be too heavy then he can drop one or more of his courses within a stipulated time. Even the core courses can also be dropped in condition of that he/she will complete the dropped course(s) within his degree tenure. In case of electives the student need not to take the same courses, she/he can select any other the same courses, she/he can select any other elective(s) as well. Such courses will appear in the transcripts and final grade card with a ‘W’ grade (withdrawn grade). These courses will have no impact on SPI/CPI. The last date for dropping a course by the student will be two weeks after the midsemester examination for the semester-long courses and one week after the mid-semester examination for the half-semester courses. The last date for course drop will be included in the Academic Calendar.

Grade Improvement

1. A student in a PG Programme, where minimum CPI for coursework is 6.0, will be eligible for repeating a course for grade improvement if he/she has a CPI less than 6.0 and has been permitted by PGAPEC to continue in the Programme on Academic Probation.

2. For Grade improvement, a student has to re-register in the course in a subsequent semester if the course is offered. The grade obtained in the re-registered course will supersede the earlier grade and the same will be reflected in the Semester Grade Card and in the Final Transcript.

3. The student can avail this option only for TWO courses in the entire programme and only ONCE for a specific course.

Refer to: http://www.iitb.ac.in/newacadhome/rules.jsp

Information of M. Tech Project:

The faculties will float their topics with the scope and their requirement (students of particular specialisation, CPI etc.) in http://surveys.iitb.ac.in/ in a certain time which will be mentioned later on (probably in between December to February). Next, the students have to approach the respective faculties based on their interest and eligibility. If the number of applicants to a particular topic is more than the requirement of the respective faculty, there will be a screening procedure conveyed the faculty/department.

TA work:

Students will be allotted by the office if available. Attendance is compulsory and every student (TA category) is expected to mark her/his daily attendance in the Department office by 17:00 hours. Stipend: 12,400/- .
Leaves:

Students are entitled for: i) Winter vacation (1 month) ii) Summer break (15 days) for the first year. In addition, they are entitled for a maximum of 30 days leave in addition to public holidays, during the entire tenure of the programme. To avail leave students need to fill the leave application form (found in office) and get it signed by their respective Faculty Advisor/Guide and submit it in the office.

Achievements:

PG Cult 2017-18:
1. Olio of Orthographics Oddities : 1st
2. Pot Painting : 3rd
3. Campus Snap-off : 1st
4. Quzzie : 3rd
5. Solo Singing : 2nd

PG Sports 2017-18:
1. Running 400mts. Men's : 2nd
2. Kho-Kho Men's : 3rd
3. Running 4*400mts. Men's : 3rd
4. Badminton : 3rd
5. Running 4*100mts. Men's : 3rd
6. Javelin : 2nd
7. Chess : 4th

*Some Important Links:

Placement
http://placements.iitb.ac.in/

IITB library
http://www.library.iitb.ac.in/index.php

Enterprenership cell
https://www.ecell.in/2018/

Gymkhana IITB
https://gymkhana.iitb.ac.in/

Lost and found
https://gymkhana.iitb.ac.in/~hostels/lostnfound.php

SARC
http://www.sarc-iitb.org/#/

International relations:
http://www.ir.iitb.ac.in/

DAAD scholarship
www.daaddelhi.org/en

Software by IITB
http://ftp.iitb.ac.in/

STAB https://stab-iitb.org/

*Some Important Information for Fresher’s:

Android applications:
1. m-indicator: Explore Mumbai.
2. Instimap: Know your campus.
3. Ftcash, payTM, Phonepe,Tez :Go cashless and get discount.
Important Contact Numbers:
1. Ambulance: 1101/1110
2. Hospital: 7051
3. Main Gate: 1123
4. Y Point Gate: 1121
5. Public Health Office: 7056
6. Quick Response Team: 9167398598/
   9167398599/9833337979/9833338989