



# UG INFO BOOKLET

## 2020-21

Know more about your Institute...



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# DISCLAIMER

We intend this information to act only as a reference for all students, and to help them be well informed about the various features of the Institute academic system. It may happen that the information or rules mentioned in the booklet may face an amendment or change at any time. Please confirm the rules/details from the relevant authorities before making any decisions.

# PREFACE

Hi everyone,

The Undergraduate Academic Council aims to keep all the students acquainted with the different rules and policies of our Institute academic system. This UG Information Booklet is another effort on our part to centralise information from all sources, and deliver it to the students in a concise yet clear form.

In this year's revamped booklet, we've made sure to include a wide range of topics that we feel the students must be aware about- from Scholarship Portal to Fast Tracking to detailed reviews of various programs, and much more!

As a student of this institute, it is highly recommended that you go through this booklet to be well versed with the rules that will be affecting your academics and the plethora of opportunities the institute has to offer.

Lastly, we've put our best efforts in compiling this booklet and presenting the information to you. Even then, some inadvertent errors might have crept in, and we would be grateful to be informed about the same

**Priyanka Bagade**  
**Institute Secretary of Academic Affairs**  
**Head – Student Support Services (2020-2021)**






# ACKNOWLEDGEMENT

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We would like to express our gratitude to all the other people involved in the making of this booklet for their suggestions, efforts and assistance and apologize if we have missed out anybody or forgotten to mention the name.

Lastly we are indebted to all the readers of this booklet for their constant support and motivation, and any suggestions for further improvement of this booklet are welcome!



# MAI HU GIAN...

Gian (not the one from Doaremon!) is a Global Initiative of Academic Networks. Under this initiative you get to do courses which are emerging in the fields of research, industry interests etc.

Now you might wonder how is it exactly different from other courses at IIT, and this is where the twist lies. The courses are conducted over 5-12 days in collaboration between an institute professor and one or more international faculty. These courses focus on emerging areas of research & industry interest and are conducted by experts.

Monetarily speaking, these courses are heavily subsidised for IIT students (almost 90%). The courses start right from basics and then build on them to teach advanced concepts related to cutting edge technology in recent years.

*"Courses are conducted over 5-12 days in collaboration between an institute professor and one or more international faculty"*



It also provides the opportunity to meet, interact and learn from international faculty and students. One can register for these courses by [clicking here](#) and selecting the courses that interest them and paying a one time fee of Rs. 500

Here are a few courses that were run by IITB recently:

Name of the course	Host Faculty	Foreign Faculty
Algorithmic Methods in Machine Learning	Suyash P. Awate, Computer Science and Engineering (CSE)	Raghu Meka, United States of America
Computational Methods with Applications to Fluid Dynamics	Eldho T.I., Civil Engineering	Perumal Nithiarasu, Swansea University, United Kingdom
Advances in Mixed-Integer Nonlinear Optimization	Ashutosh Mahajan, Industrial Engineering and Operations Research	Sven Leyffer, Argonne National Laboratory, United States of America
Topological Data Analysis	Debasish Chatterjee, Systems & Control Engineering	Yuliy Baryshnikov, United States of America
Atomistic modeling of advanced engineering materials	P. J. Guruprasad, Aerospace Engineering	Chandra Veer Singh, Canada
Public Policy-Making, Organisational Choices and Information Transmission: A Game Theoretic Approach	Saptarshi Prosonno Ghosh, Humanities and Social Sciences	Jaideep Roy, United Kingdom

For a comprehensive list of courses that are offered at IIT Bombay, [click here](#).

# FAST TRACKING



Fast tracking of degrees is the completion of B.Tech degree in 3.5 or in exceptional cases 3 years . If a student completes the required coursework (credit requirements for that particular degree) and wishes to utilize the last semester(s) in some other activities, the student can get a provisional degree and leave the institute earlier, although the final degree will be awarded at the formal convocation itself.

**"The students who choose to pursue this option would still be eligible to sit for the placements in December and can even start working as soon as they are placed."**

Students can indulge in other activities like internships, preparation for competitive exam, entrepreneurial ventures or even travelling. IIT Bombay became the first IIT to implement the idea of fast-tracking of degrees. It is worth noting that the accumulation of credits for fast tracking of your degree starts only from the beginning of your sophomore year.



**REVIEW BY-**

**SHASHANK BATRA**



**When and why did you choose to fast-track? Basically, what was the plan during the extra semester?**

I came to know that some engineering colleges offer the option of completing the degree early, before getting into college, and the idea appealed to me. So I was quite excited when my ISMP mentor told me, right in the first semester, that something like this is being planned for us as well. The decision was a no-brainer for me. Back then, the idea of completing something ahead of time sounded interesting. Having some extra time for myself wasn't a bad deal either. After the first year though, as my interests got more concrete and my career plan became clearer, I decided that if I get placed into a nice tech company, I'd travel a little and then start working earlier than usual. If not, I would have just taken some time off for some projects, hobbies, and traveling.

*"All this meant that in the first 4 out of my last 5 semesters, I had around 50 credits. It could have been way more relaxed, so that's the choice that you have to make."*

**How did you keep up with the increased course load (also managing stress)? Any unique/different ways you handled acads in the last 2.5 years, compared to the first year (when there was no fast-track)?**

The method to fast-track is to complete the electives from the last semester beforehand. If you don't have a minor, that's just one extra course per semester, and, honestly, that's not much of an extra load. Most students take some additional courses now and then so that one extra course per semester is almost always there for everyone. For me, along with those electives, I had a minor (which I enjoyed and was pretty sincere about) and a couple of extra courses due to the change of branch. So that meant an extra 2-3 courses each semester. Along with that, I had a couple of in-sem internships, and I also ended up choosing more involved projects for my electives out of interest.

**Were you able to devote time to non-academic activities? If yes, what were they?**

Things we do in our college obey the Parkinson's Law. Above a threshold of commitments, you're going to be busy no matter what. So a few extra credits don't really change that. I was able to take out time for some hobby projects, be involved with NSS for a semester, and have a couple of in-sem internships.



In my placements semester, I had to complete 41 credits. I was quite happy with the apparent "reduced" workload (41 instead of the usual 50) until I realized that many students had taken the minimum possible courses in order to prepare better. So I was definitely at a disadvantage, and it was something that required me to work extra hard and made things quite hectic. Such things should be planned beforehand.

*"You won't have as much time for other things as your peers would. Workload (and stress) increases exponentially (and not linearly) with commitments."*

**Anything else you would like to tell regarding fast-tracking?**

You should know "why" you're doing it. Everyone you know would ask you this question. And in times of increased stress or workload, you would too. You would be working more just to maintain your performance. You would probably miss out on the most "chill" semester, and you might have an extremely hectic placements semester. You would know it when you're going through these problems, and you would always have the choice of dropping/quitting something or going back on your decision. Always keep these options open. Also, "whether or not to fast-track" is not something everyone needs to consider. You would already know if you want to do it or have the reason for it, and it is then that you should consider the pros and cons. Discuss it with your seniors and make an informed decision.



# INTER IIT SEMESTER EXCHANGE

## Application

Students have to get approval from respective department committees (**DUGC/DPGC**) and submit the application to **Dean IR** (International Relations) office. Dean IR will take the final call on nominations.

## Selection Criteria

- First preference is given on the basis of CPI
- Preference is given to DD students over B.Tech if CPI is same
- Balance is maintained among different departments without compromising the CPI cutoff
- Preference to first time applicants
- Preference may be given to second time applicants if it is the last chance for him/her.

## Process Related Links

**An old MoU between IITB, IITD & IITR:**

[Click here](#)

Arrangements with other IITs can also be worked out ad-hoc.

**Process for IITB students-**

[Click here](#)

**Coursework exchange guide -**

[Click here](#)

Every IIT has its own centres of excellence. A student can now go and spend a semester or two at one of his/her preferred IITs. The credits earned during the stay will be exchanged.

The benefits of the Inter IIT Semester Exchange program are that students gain access to new courses, new ways of learning and new facilities, which are not available in their own institute.

Each institute can send a maximum of two students for one semester to each of the other two institutes. Hence, each IIT can have a maximum of 4 outgoing students and a maximum of 4 incoming students.

Students have to pay tuition fees at the home institute. The host institute will provide the visitor appropriate accommodation on-campus for the entire duration of their visit. However, students will have to bear own costs for the living expenses (including accommodation) at the host institute.

The process differs to international exchanges in the way that instead of looking for active MoUs on the IR website, the interested student has to approach the IR office (through the ISIR) in the semester preceding the exchange for an impromptu MoU to be worked out with any of the IITs.

This exchange program was initially started between IITB, IITD and IITR. However, the MoU expired and the exchange can now be worked out with other IITs as well

#### IIT Roorkee

Grade and credit conversion -  
[Click here to view](#)

List of courses -  
[Click here to view](#)

#### IIT Delhi

Grade and credit conversion -  
[Click here to view](#)

List of courses-  
[Click here to view](#)



The link for the exchange portal is -  
[Click here](#)

For more details,  
please reach out to:  
**Mrigi Munjal**  
[Institute Secretary,](#)  
[International Relations](#)  
Email: [isecir@iitb.ac.in](mailto:isecir@iitb.ac.in)



# IDDDP PROGRAM

**Interdisciplinary Dual Degree Programme** is one wherein students with a B.S, B.Tech or DD (B.tech+ M.tech) can apply for a masters in a different branch than the one they are currently studying in. The interdisciplinary program is education by choice. It combines interests that allow students to make discoveries and connections rarely possible in the narrower confines of a single-subject major. It is only for the movement of students from one academic unit to another. With this opportunity, students can pursue their interests in multiple fields.

## Am I eligible for this program?

- You, irrespective of your department can apply for an IDDDP at the end of sixth semester.
- You semester, students must have  $CPI \geq 7.5$  and should not have any FR/DR/DX/W grade in mandatory courses including NSO/NSS/NCC.
- Through IDDDP programme, you can apply for all the specializations of Dual Degree and MTech programmes approved by the Academic Senate of IITB.
- Over and above this minimum eligibility criteria, a DUGC/DPGC may enforce additional eligibility and selection criteria[ through Academic Senate of IIT Bombay].
- If admitted to B.S. programmes through Maths Olympiad, you are not eligible.

**We realise this is new for us all, therefore we have some reviews for you to refer to! More information about IDDDP can be found [here](#).**

Check out UGAC's YouTube [channel](#) for better insight!

# ARUSH GUPTA



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**My name is Arush Gupta and I switched from the Mechanical engineering dual degree programme (specialisation - Thermal-Fluids engineering) to an IDDDP in Mech B.Tech + Elec M.Tech (specialisation - Microelectronics)**

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## **Your motivation -**

**Simply put, I could not pursue, entirely, my research interests in my former dual degree programme, so I switched to IDDDP in order to be under the guidance of the professor (who is in electrical engineering) whom I wanted to work with.**

## **What about minor courses?**

**I had not done any courses in the electrical engineering department before converting to IDDDP. My decision was based purely on my research interests, and the professor whom I was interested in working with.**

## **How was the course load?**

**Slightly lesser than it is for the regular dual degree kids - dual degree kids have somewhere between 3 to 5 more courses than the folk from IDDDP. Again, it depends on the department that you'd be going into. For IDDDP in Microelectronics (electrical), they want you to do about 3 more courses over the minimum number of courses (4 courses) listed in the IDDDP description.**

**Just looking at the logistics, since you'd have an M.Tech. degree (hopefully in the department of your choice), it should better your situation than say, if you were not to have a specialized degree in a field that you would like to work in.**

### **Does it result in better prospects for future?**

I haven't gone through either of the placement process or the grad school application process and am hence, unaware of how it would help as such, but

### **What are the prerequisites to fulfil before converting to IDDDP?**

The way I understand it, it's that either

1. you have to have done 18 credits of minor courses in the department that you want to switch to for your IDDDP \*and\* have a professor who is willing to take you in for a project, or
2. you have to have a professor who is strongly willing to take you in as her/his student for the IDDDP.

### **What are the key take-away points?**

With the liberty in taking courses, it has definitely helped me be a lot less stressed than I used to be in my former programme; my former programme had loads of core courses that got very repetitive, so I got flattened out a lot because of that and the IDDDP provided me a great means to sway toward the field that I was interested in, by letting me take courses in which I knew that I'd get to learn something new. So, yeah, go for it if you wanna learn new things :))

# ATRI DUTTA



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My name is Atri Dutta and I switched from B.Tech in Electrical Engineering to M.Tech in Engineering Physics.

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## **Your motivation-**

After my first year, I was extremely unsure about whether to go for a branch change from electrical to physics or not.

Fast forward to the start of the fourth year, having done some work under a prof and a bunch of courses, it became clear to me that I wanted to be in Physics for the future. Although I had done some courses, it was clear to me that there was a gap in the coursework needed to successfully pursue a PhD in my field of choice. So after B.Tech, I would have to go for a masters before a PhD. A masters degree in an American university costs an insane amount, while here, it is practically free, with extremely good quality of coursework.

## **What about minor courses?**

It is usually important to have some coursework in the target department. I started off by doing the minor curriculum, but halfway, I diverged to taking up courses that were more suited to my interests. All in all, I had done 5 physics courses before applying to the department. The department usually looks for a few mandatory courses, like Classical Mechanics and Quantum Mechanics-1, which are integral to any physics curriculum.

### **How was the course load?**

There are two options for IDDDP, with and without honors. Both options require that your BTech credits are completed from your parent department. With honors requires 9 theory+DDP project (126 credits) and without honors requires 4 theory+DDP project (96 credits). It is important to be aware of what course load you can take, and plan accordingly before applying.

### **Does it result in better prospects for future?**

In my case, it allowed me to do some necessary coursework which I would have to do at some point in my education. It is definitely better to do it now than repeating the same stuff in your PhD. It allowed me a bit more time to carry out some more research in the institute, as well as find a better topic for my DDP.

### **What are the key take away points?**

I'd suggest people thinking about an IDDDP to think carefully about what they'd like to do in that time, make a detailed course plan, and stick to it. Doing so many additional credits in just an extra year can be quite stressful. In addition, it is necessary to fix a general direction to your research beforehand, as you're asked to choose your guide while applying to the department for an IDDDP. Although the process is quite long and it adds an extra year, it'll definitely be amazing, with the right company, and the right motivation.

# MAULIK BHATT



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My name is Maulik Bhatt and I switched from B.Tech in Aerospace Engineering to M.Tech in Systems and Control Engineering

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## **Your motivation-**

After my third-year internship, I had to decide on what to do further. I was not sitting for placements as I didn't want a non-core job and there are almost zero core jobs for an Aerospace B.Tech student through campus placements. I could have gone for further studies abroad but I was not completely sure about it. A dual degree was a good option as it would give me more time to decide on my plans and strengthen my profile. A senior who was pursuing IDDDP in SysCon suggested that if I wanted to keep working in the SysCon department then I should consider converting to the dual degree through IDDDP.

## **How was the course load?**

The course load is not too much as you get four semesters to complete the courses if you make the decision early enough. However, it varies from person to person and depends on the type of courses that you take.



### **What about minor courses?**

It is not necessary to take up minor courses in the SysCon department. In fact, in the SysCon department, there are three compulsory courses that you need to complete for the minor, and none of the courses can be tagged as a core course or an elective course if you decide to convert to IDDDP. However, it was extremely helpful for me to take up SysCon minor as you need to have a basic understanding of control theory and other relevant concepts taught in the basic courses before taking up graduate-level courses.

### **Does it result in better future prospects?**

Through the IDDDP I am\have been able to work on research projects that are not limited to Aerospace Engineering and have applications in other fields also. That will certainly count in my application when I will apply for higher studies in fields like robotics which are highly interdisciplinary. In the jobs also, I will be able to apply for all the companies that allow SysCon students.

### **What are the key takeaway points?**

Many of the students are not clear about their plans or want to explore more about other fields before they arrive at a particular decision. The IDDDP is a good choice for such students but you also need to be careful before taking this decision.

Research about your destination department before arriving at a decision. Be prepared to bear some extra academic load as you'll have to do graduate-level courses in a department other than yours. Therefore, go for it only if you are genuinely interested in the particular discipline. Make sure to have a good rapport with your guide in the destination department as it will help you a lot in the transition.

# STUDENT WELLNESS CENTRE

“HEALING CAN BE A  
PAINFUL PROCESS,  
BUT STAYING  
WOUNDED IS EVEN  
HARDER”



There are a few issues that almost everyone in the institute face, it can be something as simple as not being able to adjust to institute life to something serious like depression. The SWC encourages students to approach them for such issues, where they find it difficult to seek help otherwise.

In a 1-1 meeting with a counsellor, they can explore their feelings, work towards making a healthier and happier change. All this help is available in the institute just minutes away!

## COUNSELLING DURING LOCKDOWN:

In case you wish to talk to a counsellor over phone, kindly check the SWC website for the same - [Click here](#)

Timings :- 11am to 1pm & 4pm to 6pm

Students can also take an appointment by sending a mail to: [wellness@iitb.ac.in](mailto:wellness@iitb.ac.in)





# SPECIAL LEAVE FOR 5 DAYS

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**“Special leave” includes students’ participating in academic activities/ extra curricular activities approved by the Institute. The [Head of academic unit](#) shall be the approving authority, on the recommendation of the [Faculty Adviser/ Faculty incharge](#) of the respective activity, in which the student is participating.**

**Special leave up to 5 working days (at a stretch or in part) may be sanctioned by the head of academic unit excluding mid/end semester examination in accordance with the academic calendar. Compensation of any missed lab, quiz is at the discretion of respective course instructors.**

**Application shall be recommended by the respective faculty adviser on merits and would also need approval from faculty incharge of the activity.**

# BTP/DDP/URA



## B.TECH PROJECTS

### *AND THEIR GUIDELINES*

Some departments prescribe a B.Tech project as a requirement for the B.Tech. degree, or as a requirement for **Honors** wherein under the guidance of a faculty member, a student in the sixth semester or later is required to do innovative work with the knowledge gained in the previous years. The student is expected to do a survey of the literature in the subject, work out a project plan and carry it out through design, analysis, experimentation etc.

The project may be offered as a single unit of 12 credits(BTP) or as 6 credits of **BTP 1** followed by a **BTP 2** of either 6 or 12 credits.

Even when not prescribed as a minimum requirement for the degree or when a student is not interested in doing Honours in his/her respective department, he or she can opt to do a BTP as additional learning, if s/he can find suitable supervisor(s) to guide her/him.

# DUAL DEGREE PROJECTS

## AND THE GRADING PROCESS

The project done in the final year of the Dual degree is provided with more credits (varies with departments) and hence given more emphasis compared to the projects done during a B.Tech. This provides an ideal opportunity to explore research life and to check if it suits one or not.

**FACULTY MEMBERS FLOAT PROJECTS ACCORDING TO THEIR AVAILABILITY AND THEN CHOOSE STUDENTS BASED ON THEIR PROJECTS.**

This information will be shared after the allotment of M.Tech Project topics, which is scheduled before the Dual Degree Project allotment.



The evaluation process and assignment of grades for the Dual Degree Project vary from one department to another. You may ask your project guide/professor regarding the evaluation process and the metrics that are involved.

The rules of DDP are generally dept. specific, Check the rule book for more details.

# UNDERGRADUATE RESEARCH AWARDS

## AND THE GRADING PROCESS



The aim of **URA** is to provide UG students an opportunity to get research exposure/experience by working in a research project under a professor. It gives the student a challenging opportunity to participate in research, and establish his/her research aptitude.

It will also appear on his/her grade card as research experience. URA is essentially a recognition of the significant amount of research work done by undergraduate students as part of a project - which might be done under a BTP/DDP or as work under a professor outside the curriculum.

**URA02 AND 03, IF AWARDED, CARRY CREDITS(6) AND ARE ASSIGNED A LETTER GRADE OF AA**

All the students who have done significant research work under a professor are eligible for a URA.

Another perk of receiving an URA is that it is counted towards one's CPI thereby improving it by a substantial amount.

There are 3 levels of URA:

1. **URA01** : A recognition of a small research/ developmental effort, successfully completed by a student in the first, second or third year of an undergraduate programme - that is, a B.Tech., 4 year B.S. or a Dual Degree Programme.
2. **URA02** : This is to be treated as recognition of truly exceptional work, both in quality and in extent, done in the B.Tech. Project.
3. **URA03** : These are to be treated as recognition of truly exceptional work, both in quality and in extent, in the Dual Degree Project.

**URA02** and **03** if awarded, carry 6 credits and are assigned a letter grade of AA thereby improving one's CPI. **URA01**, if awarded, is assigned a PP grade. **URA02** is awarded exclusively to students doing a BTP while **URA03** is only for students enrolled in a Dual Degree course who are doing their DDP.

Refer to the rule book for further details.

# PLAGIARISM

As a student (and throughout your professional life), it is imperative that you understand what constitutes plagiarism and refrain from committing it.

Turning in someone else's work as your own, even with modifications, or reproducing any content without due citation or even failing to put quotation marks when needed can count as plagiarism. There's also self-plagiarism, which means that you shouldn't even submit your own pre-published work to a separate forum.

## HOW TO PREVENT INADVERTENT PLAGIARISM?

- Paraphrase the information you take (and also **cite the source**), and don't copy verbatim as it is.
- If copying extracts from a source, then it should be copied as it is without any modification within **block quotes** and should be properly cited. The citing here is usually the addition of page number or paragraph number in case of a web content
- If some of the material you are using for your research paper was used by you in your current class, a previous one, or anywhere else you must **cite yourself**. Treat the text the same as you would if someone else wrote it.
- If you're writing a research paper you must **include the references page** or page of works cited. This information is very specific and includes the author(s), date of publication, title, and source. Follow the directions for this page carefully. Referencing a material incorrectly is also defined as plagiarism.
- You must explicitly request for permission to reproduce a figure in a journal. It should say "**reproduced from ABC with permission from XYZ**" where XYZ is a copyright holder and ABC is the reference. You may typically reuse published data by resorting to extracting the data from the figure/table.





## WHAT PUNISHMENT IS GIVEN FOR THE ACT OF PLAGIARISM?

- Penalties for reproducing material in seminar reports without proper citation range from a warning (in case the mistake was unintentional) to **loss of two grades** in the Seminar.
- For project reports, the minimum penalty is loss of one grade and the maximum penalty is an **FR** grade.
- In more serious cases, like deliberately claiming false results on experiments, falsely claiming original content in an M.Tech/M.Phil/PhD thesis, the case should be referred to the ADAC and the minimum penalty is **suspension** for a period of one year.
- In exceptional cases, the matter is referred to the Apex Committee and the **registration may be terminated**, with or without an exit degree depending on the severity of the act.

For further info: <http://www.iitb.ac.in/newacadhome/punishments201521July.pdf>

## HOW TO CHECK FOR PLAGIARISM?

There are many softwares that can be used to assess the similarity index of a report (in % terms). One such system is the '**Turnitin**' system. This cross-checks your work against the world wide web, databases of published material, as well as content previously submitted by other users. It highlights sections of text that are duplicated in other sources. Markers look at the Turnitin results to check whether such duplication is a possible case of plagiarism. The **Similarity Index** generated is a pointer of how original is the submission. This is then used by the instructor to determine whether the submission is acceptable.

For details on how to activate your Turnitin account, refer to the **Online Resources** section.

In the end, there's far too much to lose by committing plagiarism, and if you do need help on paper, contact your instructor or ask a fellow student for a hand.

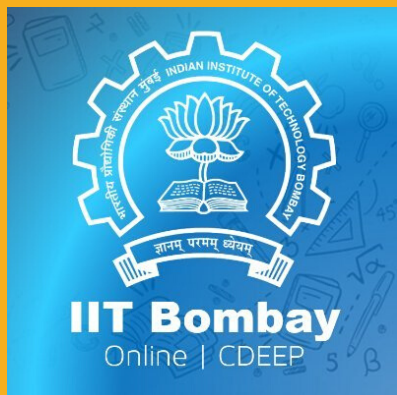
# COURSE ERA

## NPTEL

NPTEL is an online website designed to deliver Massive Online Open Courses (aka MOOCs) from the field of engineering and physical sciences at UG and PG level for free, with curriculum designed as per Indian institutes.. You can access courses from various institutes in the country, for example any IIT/NITs etc.



They also provide online certification. All courses are completely free to enrol and learn from (unlike Coursera :p). The certification exam is optional and comes at a fee of Rs 1000 per course exam.



## CDEEP

CDEEP aims to provide high quality education in engineering and science in distance mode to a large number of participants throughout the country and abroad. Live courses are transmitted through the internet.

Students may login through their LDAP IDs to access all the available lectures.

## IITBOMBAYX

IITBombayX is a massive open online course (MOOC) provider. It hosts online courses in a wide range of disciplines to a varied audience of students, professionals and teachers among many others. The courses done online are on a paid basis, offer online interaction with the faculty in charge of the course and finally provide the required certification.



# ONLINE RESOURCES

## TURNITIN PLAGIARISM CHECKER

*IIT Bombay provides students with the facility to use Turnitin account to assess the similarity index in their reports. To create and activate your Turnitin account, write an email to [journals@iitb.ac.in](mailto:journals@iitb.ac.in) requesting the same. The mail should contain your First Name, Last name, Roll Number, and IITB email ID. Within a day or two, the library creates and activates your account and replies with your Turnitin user ID (IITB email ID) and password. Then you can simply log in and access the tool.*

*Refer to the section on **Plagiarism** to see how you can avoid it in the first place!*



## GRAMMARLY

*An initiative that the library started last year was to provide premium Grammarly access to students with an unlimited number of subscriptions, to meet with its increasing demand. Students can start their own Grammarly account by using their **LDAP email ID** and password!*



## BIGHOME

*Computer Center, IITB provides server space for creating home pages for students. You can host your personal homepage on institute servers free of cost.*

*For details, visit*

*<https://www.cc.iitb.ac.in/page/personalwebpage>*







# IITB MONASH ACADEMY

Established in 2008, the **IITB-Monash Research Academy** is a major **Australian-Indian research** collaboration formed between India's top-ranked Indian Institute of Technology Bombay (IITB) and Monash University. Geared towards **PhD training** on a sizable scale, the academy brings a solutions-driven approach to addressing global problems.

**Monash University** is Australia's **largest** university with a global reputation for making an impact and challenging the status quo. Monash was ranked in the world's top one percent of universities by Time Higher Education 2016-2017 and operates at a scale unrivalled by any other Australian-Indian collaboration: with close to 200 PhD students, 400 researchers and 400 research projects to date.

## Joint PhD program

The PhD program at IITB-Monash Research Academy allows graduate students from India to work with both IITB and Monash supervisors, as well as industry partners.

A typical scholarship for a student in the program is as follows:

- Rs 4,20,000 per annum scholarship for the first two years
- Rs 4,68,000 per annum after first two years
- A grant of up to A\$29,000 per annum in Australia

A minimum of one year in Australia working with his/her Monash University co-supervisor (some projects may require the student to be in Australia for a longer period of time or undertake more than one trip) and a waiver of international student tuition fees at Monash University is also included.

## The seven research themes under this program are:

Advanced computational engineering, Simulation and Manufacture, Infrastructure Engineering, Clean Energy, Water, Nanotechnology, Biotechnology and Stem Cell Research and Humanities and Social sciences



**IITB-Monash  
Research Academy**



## KARUNA VEERAMANI

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### A REVIEW OF THE PHD PROGRAM.

READ ON TO KNOW  
MORE ABOUT HER  
RESEARCH, HOW THE  
MONASH PROGRAM IS  
LIKE NO OTHER, AND A  
FEW TIPS FOR HER  
JUNIORS.

### How did you find out about IITB-Monash Academy, and what led you to choose it for your research?

I found out about the IITB-Monash Research Academy through the internet when I was conducting random searches for PhD opportunities after my Masters. The point that most captivated me was that students were already provided with a research title - within the purview of which the overall research would be conducted; unlike scenarios where students, only after getting into a PhD into a broad discipline, have to zero in upon a suitable research topic. The advantages of this are many - your literature survey prospects are much higher, your work is more streamlined right from the start, you choose the field only if you are genuinely interested which makes it even more of a responsible decision.

### Could you explain briefly what your research is about?

My research deals with the synthesis and applications of heterogeneous catalysts through continuous flow chemistry. Continuous flow chemistry is a lucrative but recently developed field that allows chemical reactions to happen faster, safer, and in a more efficient fashion while heterogeneous catalysts are highly important materials that assist in the formation and progress of various chemical processes. My research aims to combine these two together and thus result in the development of materials that not only could be produced in a quick and efficient manner but further allow faster and safer progress of chemical processes.

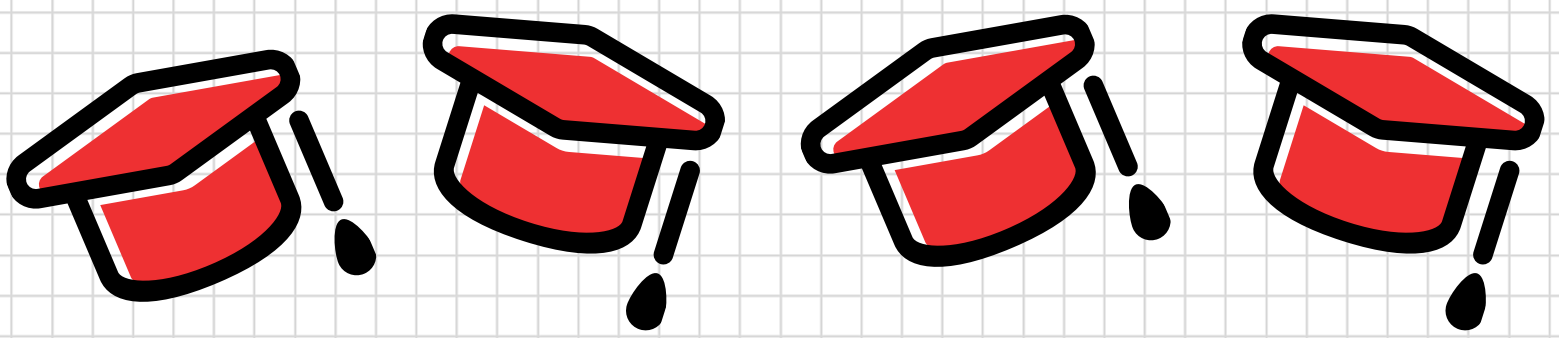
### What was your experience like in the PhD program?

A PhD is one of the best things one can do in life. It is a mixture of everything - happiness and sadness, enthusiasm and frustration, pride and shame, courage and fear, and much more. It teaches you a lot - not just professionally. A PhD is a holistic form of development - both mentally and psychologically.

"No matter what you have and you don't, just never leave your passion for research at any point. No matter what you are doing - be it a PhD or not, be it in the Monash programme or not, be it any time, any position - show zeal in work. At the end of the day, more than a degree, it is the mental satisfaction that is important."

### How is the research under Monash's program different from say, research under any IITB prof?

Research under the Monash program is mainly different in the way that you get to research under a foreign guide and conduct research for a minimum of 3 months in a foreign land (Monash University, Australia). This is an excellent clause in itself - which is the basis for why this program is extremely productive. You get international exposure during your PhD, you learn the working culture abroad, you get to interact with a lot of people from all over the globe, your horizons widen both in terms of hard and soft skills, you understand how to carry out not just doing research - but also the thinking behind it; you get the opinions from not just one but two supervisors in your research, you get to know the perspectives of many people, etc. It is a lifetime opportunity; and one that is certainly something to be experienced.



# SCHOLARSHIP PORTAL

- A scholarship portal has been developed by UGAC for the students of the Institute which contains the list of scholarships available based on your interests like higher studies, exchange programs, research, internships. financial aid and much more...
- The portal gives the option of "**filtering the results**" (based on various criteria such as merit, higher education etc.) so as to provide user-specific results.
- In addition to this, there is also a website (maintained by the institute) which contains the list of scholarships that can be availed while in the Institute. Refer to the following links for the same:

[Click here to open the Scholarship portal](#)

[Click here to view the Institute scholarships](#)

# RISE

**The Rural Immersion program for students of Science and Engineering (RISE) is an initiative by CTARA, where students of IITB get an opportunity to be part of a two-week immersive cultural experience of life in rural India. Selected students are placed with a reputed NGO working in the field of rural development. They also get an opportunity to stay in a rural household and get a glimpse of rural life.**

We have Archisman Biswas, a third year Electrical Engineering Undergraduate talking to us about his experiences and why he decided to be a part of this program, the difficulties he faced and what he took away from the trip

## THE SELECTION PROCESS

I have always been fascinated by the cultural, social and lifestyle difference between different communities. When I got to know about the RISE program offered by CTARA, I felt that it would be a great opportunity for me to go and explore how life in rural areas is like, what I can learn from their lifestyle and how NGOs in these areas are solving the villagers' problems.

For the application, I had to fill a form providing the basic details about myself, why I am interested in the program and mention if I have any previous experience of life in rural areas.

After this step, there would be an interview round. The questions asked in the interview round would be related to what my motivation is for participating in this program and what I would like to learn from the program.

After the selection process, there were 2-3 meetings conducted where the selected students and professors in charge of the program planned the overall proceedings of the program. I was assigned to the NGO "Vayam" who were working for the upliftment of tribal communities in Palghar.





**"Getting to experience these problems first-hand, I was much more open-minded about the rural lifestyle"**

## **THE EXPERIENCE**

We stayed in different villages of Palghar during the program. To be honest, it was not at all easy to adjust to a rural lifestyle. It took at least five to six days in order to become habituated to the local rural lifestyle, their food habits, sleep routines, the drinking water etc. I found it very difficult just to spend a single day without internet connection, television, or any sort of digital media. But gradually all of us adjusted to the environment.

It was the middle of the summer season and by this time most of the natural water bodies in the district dried up. The villagers are forced to drink waters that they can collect from the bottom of the wells. It was very hard to accept the muddy water for drinking purposes but slowly and steadily, we all got accustomed to it. In this day and age,

The food habits were also quite different from the ones we are used to. The hardest thing to get used to was eating chapatis made of ragi rather than wheat. Every night before going to bed, we needed to ensure that there was an adequate amount of mosquito repellent applied, but still you can't change the fact that you will be bitten at night and your sleep will definitely get hampered.

There, the morning starts before sunrise. Villagers were already out of their bed, preparing to leave for farming, collecting woods and fetching water when we just used to get out of bed. The afternoons were periods of intense heat and staying inside was the best thing to do during these periods. We did face a lot of challenges initially but it also made us realize the problems these villagers have to face every single day. Getting to experience these problems first-hand, I was much more open-minded about the rural lifestyle.



**"It is important for us to go slowly and solve the problems one at a time."**

## **THE PROBLEMS**

There were many problems that I was able to identify during my stay in the villages. But the main objective of the program was to learn about the problems and lifestyle of the villagers. We are not supposed to implement a solution then and there only. I indeed discussed the problems I discovered with Mr. Milind Thatte, who is the founder of NGO Vayam. Some of the problems I discovered were:

- Lack of sanitation
- Malnutrition and stunted brain development
- Forest resource management
- Cooking practices
- Requirement of precision agriculture

I did discuss these problems and the solutions with Mr. Milind Thatte, but I learned that it would be very hard to practically implement the solutions. It is very important for us to go slowly and solve the problems one at a time.

And more than that it is important that the villagers become aware of these problems themselves and try to slowly make changes. Just enforcing certain schemes and laws has never been a solution and never will be. The overall experience was very much enriching for me.

I got a chance to experience rural life. I got to contribute to the society as a whole. During my stay at Palghar, we were involved in geo-tagging the water locations present near the villages for Vayam. The major aim was to create a proper documentation about the natural water resources which would be helpful later-on during construction of wells and other kinds of reservoirs in the localities. I was able to interact with different people in the village, got to know about their day-to-day life. These are some of the memories I will never forget.

*- Archishman Biswas*

# PURSUING ENTREPRENEURSHIP

**Shikhar Agrawal and Aditya Makkar, students of the Mechanical Engineering and Industrial Design Center respectively, both dropped a couple semesters to work on their start up ideas. Read ahead to know about their experience, where they've answered a few questions regarding their journey.**

**What are you working on? How did you both meet?**

We are running an organization HelpNow which is building India's most reliable ambulance service by reducing arrival times from 50 minutes to 10 minutes. We have created the largest network of private ambulances in Mumbai and operate our own fleet of HelpNow ambulances. The solution gained popularity during COVID when Mumbai Police, Municipality Corporations, Govt. hospitals partnered with us. We met in the first month of freshie year, where we worked together in a team for XLR8 and then worked together to create an autonomous suitcase for ITSP in summers. Venkatesh Amrutwar, 2017 IIT-B graduate and former Overall Coordinator of E-Cell left his job last year to join us full time for this initiative.

**Which sems did you drop, and how did you/ are planning to cope up?**

We dropped two semesters after our sophomore year, that is, our 5th and 6th semesters to focus on entrepreneurship. We plan on getting back to our courses that we missed, and continue this sem that's happening online, from August.

**How did you make the decision between dropping an year and pursuing your interests or to continue your acads normally?**

We got funded by YCombinator and some of the reputed Silicon Valley startup founders and investors who are well-known for their experienced advice. There is no set process for dropping a semester. Seeing the merit of the case, the director and dean approved our drop request. Managing academics along with HelpNow was quite difficult being operationally heavy and round-the-clock service.

*"Convincing parents to allow us to take a drop was a challenge, although they have been supporting us for the work and its impact. We took a drop of two semesters after our second year, and will get back to our academics to complete the third year syllabus starting from the coming sem."*

### **What relevant courses/projects etc. did you do before dropping a sem?**

We didn't take any course related to entrepreneurship but did few projects together. We started a crowdfunding project with Sushant Singh Rajput "Nebula" to help people raise money for social and personal causes. We launched a service for insti called "Cravy" together with Yateesh Agrawal (CS batchmate), an online store supplying natural superfoods to Students and campus Residents and help increase their performance output in university. We also worked together on "Glammy"- an online auction house for Movie props and cast signed memorabilia. We were in talks with Nadiadwala Films for Kalank but later got funding for HelpNow and started working solely on it.

### **What are your plans in the future, in regards to entrepreneurship?**

We are now focused on expanding our self-operated fleet to have better quality control. Our plan is to expand our service to 5 other cities in next 6 months.

*"Our vision is to scale our service across India and provide a fast and quality medical response to every one of the 1.3 Billion Indians."*

**Shikhar Agrawal**



**Aditya Makkar**





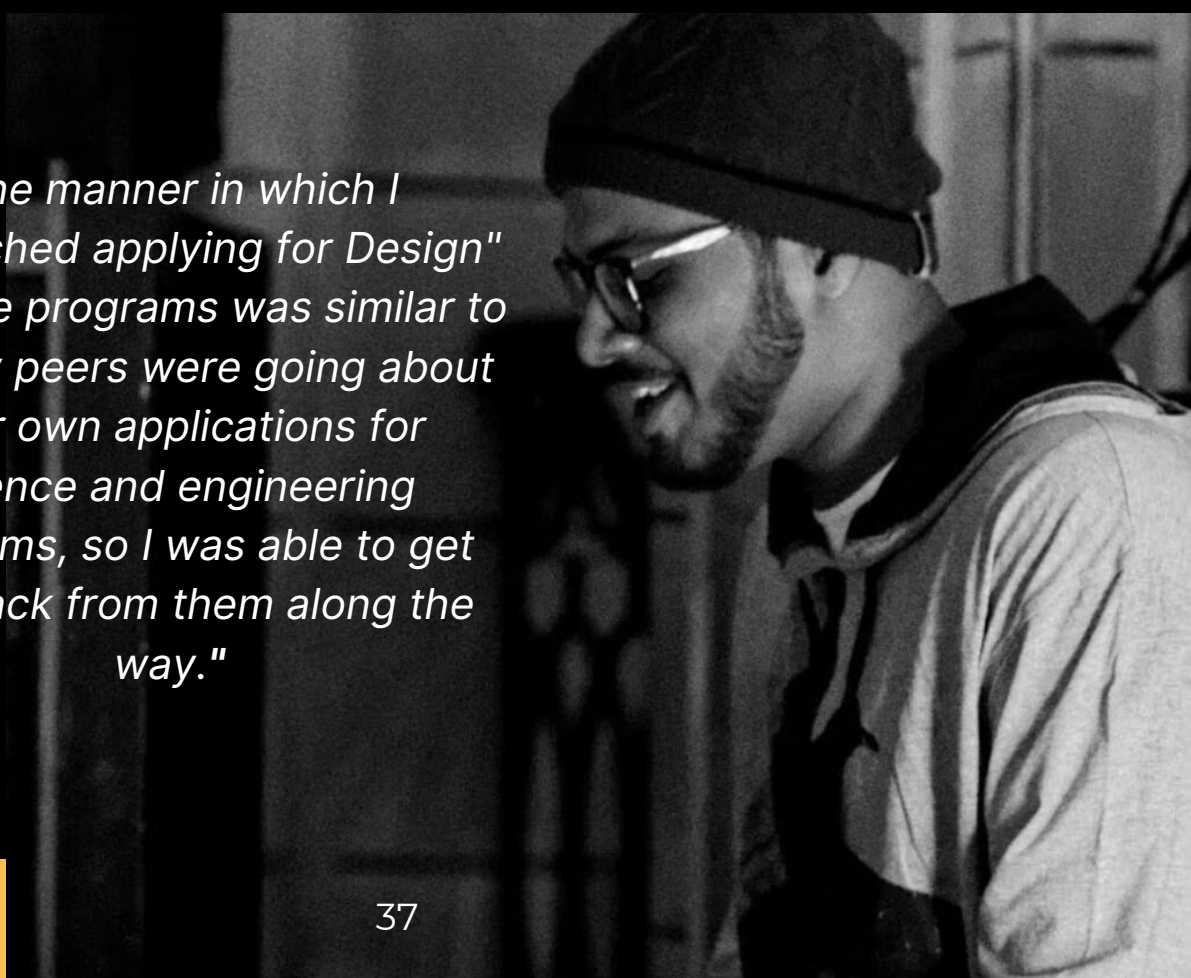
# ACROSS THE INFINITY CORRIDOR

Rishi Venukuru pursued a *BTECH in CIVIL ENGINEERING* from IIT Bombay, before opting for a *MASTERS in DESIGN* at IDC. Read the review to know more about his unconventional experience, and how it changed him for the better.

**Q.1** When did you decide to pursue a degree in Design? What were the main factors that led you to taking this decision?

I'd been into some amount of Art and Design during my years at school, and while most of that took a backseat through JEE prep, coming to IITB meant that I was able to start taking courses at IDC through the minor program. The first course I took - Basics of Visual Communication by Prof. Raja Mohanty - was one that I personally quite liked, and over the next six semesters I ended up taking up one IDC course per semester, along with a couple projects. *The 'decision' to formally pursue design was perhaps taken at the end of third year.* I attempted to work on a music + design related project that summer. The M.Des program is a lot more about working on real, and socially relevant design and research projects. *I've personally engaged a lot more with what could broadly be termed as HCI (Human Computer Interaction) research.*

*"The manner in which I approached applying for Design" graduate programs was similar to how my peers were going about their own applications for science and engineering programs, so I was able to get feedback from them along the way."*



## Q.2 How difficult was it to choose a path that was way different from what usually people decided on doing? How did people around you react to it?

I didn't perceive the choice to pursue design as particularly difficult, because my family and friends were supportive of the idea. Not having clear examples of seniors who'd followed similar paths did make things tricky at times though. I relied on a lot of internet advice as I went about preparing my applications for grad school and for the Indian design entrance exams as well.

## Q.3 How is the course load for an M.Des degree? How is it different from an engineering degree according to you?

The M.Des program has 5 disciplines, and I was in Interaction Design, so I'm only commenting on that discipline. The course load has been far more intense than anything I'd gone through in B.Tech. Each semester in first year has 10 courses, that mostly run in modules which are 1 - 4 weeks long. *I had to spend a lot more time working on projects because of my lack of a core 'design' background in the first sem, but whatever tech + research experience I picked up through B.Tech certainly started helping over the second semester.* Almost all learning is project-based, and classes are smaller and much more collaborative (over the first year I worked with all of my 11 classmates on at least one major course project). There are also very few 'exams'. Campus life is also very different. Most M.Des students have close to no time to meaningfully engage in any co-curricular activities.

*"While I was able to do literature and music stuff over the course of B.Tech, academics have consumed all available time in M.Des."*

## Q.4 What are your plans for the future?

*Going through the M.Des has definitely helped me identify what I'd like to work on moving forward, with much more clarity than I had at the end of B.Tech.* I see myself continuing to engage in academic research in HCI, first through RAShops probably, and eventually (hopefully) a PhD. My plans for the immediate future would be to first complete my final projects, and then take a break for a little while. The last two years have been rewarding and exhausting in equal parts, and I'd like to take a few steps back and assess next steps.

## Q.5 What are some key points you would want to suggest to others who are willing to take up design for their Masters?

If you're broadly interested in design, the IDC minor program is a good starting point, but *I'd really recommend that you speak to your peers in the B.Des program, seniors in M.Des, and faculty at the IDC to get a better understanding of what actually happens in that building.* If you're still interested, then IDC is a good place for B.Techs like us to make the switch to design/HCI.

# REACHING THE COUNCIL

The UGAC, IIT Bombay, or the Undergraduate Academic Council of IIT Bombay, is a student body dedicated to improving the academic system and culture of the institute by working on various policies and conducting sessions to disseminate information regarding the same.

It has 7 primary pillars on which it functions :

## 1. STUDENT SUPPORT SERVICES

SSS mainly takes care of the basic requirements of the students like tutorials, registration, faculty-student relations, learning issues etc. It is responsible for holding the TSC for students before the exams.

## 2. CAREER CELL

CC aims at equipping the students with all the required information and insights into the career opportunity coming their way and provide an impartial, fair account of every possible detail about various careers and job profiles.

## 3. EnPoWER

Engineering oriented Promotion of Work Experience and Research(EnPoWER) aims at the promotion of research among the undergraduate students and also encourages them to use their skills to tackle problems faced by the industry and solve real world problems.

## 4. CONSULT CLUB

The Consult Club conducts sessions and workshops to help students gain an understanding of consulting and its nuances.

## 5. ANALYTICS CLUB

The Analytics Club organises sessions of various kinds that teach students various skills and softwares related to analytics and their applications

## 6. FINANCE CLUB

The Finance Club conducts a large number of sessions and competitions on various topics related to finance.

## 7. WEB AND DESIGN TEAM

The Web and Design team of the UGAC support the other 6 verticals by providing them with all the designs needed to make the sessions interesting and by updating the websites related to the UGAC so that the students have a much smoother experience.



# WHERE TO FIND US?

**The Academic Council strives to help the students and is always available in any kind of problem. Feel free to contact anytime. One can reach the Council through :**

1. **UGAC website** - All the information regarding the Academic Council is available on its website, <https://gymkhana.iitb.ac.in/~ugacademics/>
2. **Facebook pages & group** - One can ask any query and clear any doubt/confusion they have and also post anonymously or message directly. The FB pages/groups of various verticals of the council are:
  - **Student Support Services** – <https://www.facebook.com/sss.iitb/> AND [https://www.facebook.com/groups/409276826167955/?ref=br\\_rs](https://www.facebook.com/groups/409276826167955/?ref=br_rs)
  - **Career Cell** – <https://www.facebook.com/careercell.iitb/>
  - **EnPoWER** – <https://www.facebook.com/enpoweriitb/>
  - **Finance Club** – <https://www.facebook.com/groups/finclubiitb/>
  - **Consult Club** – <https://www.facebook.com/consultclubiitb/>
  - **Analytics Club** - <https://www.facebook.com/groups/AnalyticsClubIITB/>
  - **International Relations Office** – <https://www.facebook.com/IR.IITB/>
3. **Email ID** - For any of your problems and doubts, you can also send an email to [gsecaaug@iitb.ac.in](mailto:gsecaaug@iitb.ac.in) or [sss.iitb@gmail.com](mailto:sss.iitb@gmail.com)
4. **YouTube Channel** - The UGAC regularly releases videos documenting experiences seniors had during their internships, semester exchanges etc. and other informative videos regarding Registration Issues, ASC & WebMail Sessions, Mental Health Issues etc. [at this link](#).

Feel free to reach out to us at any time!

