Academic Programmes (UGs)

1. What BTech branches are available at IIT Hyderabad?

The following BTech branches are currently available: Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Engineering Physics, Engineering Science, Material Science and Metallurgy (MSME), and Mechanical Engineering.

2. What are the requirements for a BTech Degree?

It is necessary to earn a minimum of 125-130 credits (will vary in that range for each branch) and also fulfil the category-wise credit requirements such as core courses, core electives, liberal arts electives etc. In addition, satisfactory completion of NSS/NSO activities is mandatory. Further, there exists a minimum residency requirement of four years. This means that you cannot complete the BTech programme in less than four academic years or eight semesters.

3. How many courses/credits do I have to take per semester?

On an average, one registers for about 18 to 20 credits of coursework per semester. This may vary from student to student and semester to semester. In the first semester students are expected to take around 16-20 credits (depending on the branch).

4. What is a credit?

A credit is a measure of the teacher-student interaction in a class room. A theory course having three credits implies three hours of classroom contact with the course instructor per week. For a laboratory course, three hours of laboratory time per week is worth two credits.

5. What is Fractal Academics?

To foster interdisciplinary learning and facilitate flexibility in academic curriculum, IITH has introduced a new academic approach called "Fractal Academics". The name is inspired from the "fractals" which are self-similar across different scales.

A typical 3 credits lecture course has 42 lecture hours in a semester, whereas in Fractal Academics the credits can vary from 0.5, 1, 1.5, 2, 2.5, and 3 having 7, 14, 21, 28, 35, and 42

lecture hours, respectively. This enables the student to choose not only the course he/she likes, but also the amount of depth in that course. For example, a Chemical engineering student interested in a quick outline of IC engines may take a 1 credit course on the same and a Mechanical engineering student interested in depth knowledge of IC engines can later on choose a 3 credit course advanced course on IC engines.

6. How is Fractal Academics curriculum scheduled?

Fractal Academics is based on the concept of "Continuous Evaluation". Instead of two exams in each semester (Mid and End Semester exams), the students are evaluated based on a series of assignments, pop quizzes etc. This reduces the last-minute-exam-pressure on the students and emphasizes continuous learning.

7. How are the academic programmes structured at IITH?

The academic programme that lead to a BTech degree is based on a four-year/eight-semester programme. There is scope for a student to take additional academic load or even go slow and finish in nine or more semesters. For a typical BTech degree programme, about 30% of the credits are for common courses, about 50% are for the core courses in the discipline of the student, and the rest of the 20% are set aside for the student to choose in terms of core electives, liberal arts electives, and free electives. In addition to this, an interested student can opt for a Minor programme, an Honours programme, or both. They require additional course/project work. Both are optional and come into force from the beginning of the third year. The minimum time for BTech is 4 years while the maximum is 5 years.

8. How are the academic programmes different from those in other IITs?

To foster interdisciplinary learning and facilitate flexibility in academic curriculum, IITH has introduced new academic approach called "Fractal Academics". More information is available at https://www.iith.ac.in/fractal/frac.html

The basic BTech programme consists of a core, common programme which reinforces basic sciences and introduces basic engineering skills (such as programming, workshop, engineering drawing); and a core engineering programme consisting of about 12 to 15 core

theory courses, 4 to 6 laboratory courses, and 4 to 6 electives. There is also a fairly good consensus on what constitutes the overall syllabus for each branch. There is certainly some variability from IIT to IIT in terms of the course structure, focus and emphasis but one could say that about 75% of what we teach in any branch for the BTech degree can also be found in the corresponding programmes of the other IITs. A typical BTech programme at IIT Hyderabad enables a student to build his/her own programme around a core. One-fifth, or about a dozen courses, of the BTech programme are left to the student's choice. There is further scope for shaping the BTech programme in the form of the Minor and the Honours options. There is also the possibility for a student to take up to one semester off to pursue professional interests. IITH facilitates grade improvement by allowing the student to retake a course. Further information may be sought from the faculty advisor.

9. What is a Minor?

We always have a passion or some fascination for a particular subject or a line of thinking or study. However, there may not be much scope for exploring it formally within the context of the engineering discipline that one is pursuing. The Minor option enables one to nurture this interest without compromising on the major engineering branch programme that one is already committed to. It comes into force from the third year onwards, i.e., after a student has spent a couple of years at IITH and has taken several courses in the major discipline. At this stage, i.e., towards the end of the second year (and not right at the beginning of the BTech programme), an interested student may opt to take up one of the available minor streams by registering for one from a basket of courses associated with the minor stream. After successful completion of this course, he/she may continue in the minor stream by taking one additional course each semester. In order to get formal recognition for the Minor, a student has to earn 12 credits by taking courses from the basket of courses associated with that Minor. Biomedical, Computer Science, Economics, Entrepreneurship, and Electrical Engineering are some of the minors currently being offered. This list of minors is constantly expanded, so look out for the same on the academic website.

It should be kept in mind that taking up a minor is optional and a student does not have to register for a minor. Further, a student can always opt out of a minor, if he/she finds the additional load too heavy or is not interested in pursuing it any more.

10. What is the Honours programme?

The Honours programme is for those who wish to do more in their major branch of engineering. It is also a recognition of excellence in that field of engineering. Thus, in order to earn the Honours in the major field of engineering, a student has to earn 12 additional credits through course work and project work in topics related to the major discipline.

11. How does one get into the Minors and/or Honours programme(s)?

One needs to pass all the courses till the end of their 2nd year to be eligible to apply for these programmes.

12. Can I choose my own courses?

To some extent, a student can choose his/her own courses. In the BTech programme, the choice is limited to four liberal arts electives, four to six electives in the major field of engineering and two free electives offered by any department. A student can also choose the minor stream that he/she wishes to take, if any, and may also choose the electives if the Honours programme is being pursued.

13. What is the branch change policy?

At IITH, branch change is done at the end of the first semester itself and is based solely on the first semester grade point average of those who apply for a change of branch. In case of a tie, the All India Rank (AIR) in the qualifying JEE examination is used to decide on who gets the branch change. Further, the number of students in any branch should not increase by more than 10% nor should it decrease by more than 10% as a result of the branch change.

14. What is a double Major option?

Double major means you can get two BTech degrees from two different departments at the same time. A student may join the IITH in any particular discipline. He may then do required additional courses (24 credits) in a different discipline to earn two separate BTech degrees from each of those disciplines. A student can take up to 5 years to complete the credit requirements.

15. Can BTech degree be continued to MTech or PhD?

Yes. A BTech can apply for conversion to MTech or even directly convert to PhD.

Academic Programmes (PGs)

1. What are the Post graduate courses offered at IITH?

IITH presently offers (1) MTech (2) MSc (3) MPhil (4) MDes and (5) PhD in the following departments:

- **MTech**
  1. Bio Medical
  2. Bio Technology
  3. Chemical
  4. Civil
  5. Computer Science
  6. Electrical
  7. Material Science
  8. Mechanical and Aerospace

- **MSc**
  1. Chemistry
  2. Mathematics
  3. Physics

- **MPhil**
  1. Liberal Arts

- **MDes**
  1. Design

- **PhD**
  1. All Departments

The information regarding specializations offered in each department can be obtained through the respective departmental web sites.

2. How to select thesis supervisor?

Selection of supervisor for thesis varies departmentally. In general, the student is given a freedom to choose his/her supervisor based on the area of research interest. Once the student joins, they are advised to consult their faculty advisors regarding the same.

3. What are the leave and scholarship rules for TA category students?

The monthly scholarship will be released after satisfactory completion of TA responsibilities by the students. The students are required to seek approval of the advisor. The approval is online. Students can take up to 15days of leave in an academic year (subject to individual course attendance requirements).

4. What is a 3 year MTech?

A 3 year MTech has exactly same credit requirements as that of 2 year MTech. In this, the student takes lesser number of credits per semester compared to 2 year MTech while simultaneously working on a sponsored research Project.

5. What are the minimum credit requirements for MTech/MSc/MPhil/MDes degree?

A minimum of 60 credits should be completed in a period of 2 years to get the degree.

6. What is a credit?

A credit is a measure of the teacher-student interaction in a class room. A theory course having three credits implies three hours of classroom contact with the course instructor per week. For a laboratory course, three hours of laboratory time per week is worth two credits.

7. What is the eligibility criteria to convert from MTech to PhD?

A student should have the minimum CGPA of 7.0 in their course work (usually first and second semesters for a 2-year MTech) to convert directly from MTech to PhD.

Studies at IITH

1. How much time do I have to spend on my studies?

We expect a student to spend about 40-50 hours per week on academics, including attending classes and laboratories.

2. What is the grading policy at IITH?

The grading is IITH is relative and is based on the Instructor's perception of what an average performance is. At the end of the course, based on continual evaluation throughout the course (in the form of assignments, pop quizzes, and examinations), a student is given one of eight passing letter grades, namely, A+, A, A-, B, B-, C, C-, and D carrying credit points of 10, 10, 9, 8, 7, 6, 5, and 4, respectively, or one of the two failing grades, namely, FS and FR, each carrying zero credit points. The grade point average is calculated using the number of credits for a course and the letter grade (i.e., the corresponding credit points associated with the grade) for all the courses taken by a student. If a student gets an FS or FR grade, no credits are earned for that course. An FS grade entitles the student to take a supplementary examination while an FR grade implies that the student has to go through the entire course again, if the course is a core course. A student has to earn a minimum of 125-130 credits for a BTech degree. The final grade point average will be based on the courses completed successfully.

4. What laboratory facilities are available?

All laboratories, workshops etc for all programmes are available at IITH. All laboratories have been set up from scratch at both ODF and Kandi campus of IITH. This, along with the small class strength has given the opportunity to introduce new experiments that are not available in some of the older IITs. In addition, sophisticated research labs exist in every department, see the respective departmental websites for more details. IITH has total of 110 research and teaching labs.

5. Is the library well-stocked?

A library with all the necessary textbooks has been set up. It is open until late in the evening. More and more books are being continually acquired for teaching as well as research needs of the students, research scholars and faculty alike. We also subscribe to a range of scientific and technical journals in all disciplines. Further, numerous subscriptions to a wide variety of Online Journals and Digital Libraries are made.

6. Is there good access to the Internet?

We have excellent access to the Internet. The whole academic and hostel zone is WiFi-enabled.

7. What are the advantages of studying at IITH?

At IITH, the faculty is overwhelmingly young and hip. The average age of a faculty member is likely to be between 30 and 35. In an older IIT, it may be between 40 and 50. Additionally, since the academic programmes are being set up from scratch, it is easier to inculcate the best practices that are prevalent at IITs and elsewhere. The following are additional advantages at IITH:

a. IITH has introduced a new academic program called Fractal Academics. It is essentially trying to atomize the courses and introducing excitement and challenges in engineering early in the curriculum. More on Fractal Academics at: http://www.iith.ac.in/fractal/frac.html, http://www.iith.ac.in/fractal/pdf/2014%2007%20Fractal%20Aacademics.pdf

b. IITH emphasizes on active learning, this involves having a lot of project work in most of the courses at IITH

c. IITH has a DigiFab: Digital Fabrication (3D Printing) Lab at the first year level for all incoming undergraduate students. It is the only institute in India to offer this lab and perhaps the only institution in the world to offer such a lab to first year students. DigFab lab equips students with future manufacturing technology.

d. All first year students do a project of their choice which is on display and demo during 26th Jan celebration, and graded during this display.

e. Having a stream of Creative Arts courses (drama, photography, music, sculpture, etc.)

f. Opportunity for Double Major, i.e., getting a BTech degree in two disciplines

g. Opportunity for Minor and Honors program

h. Opportunity for a minor in Entrepreneurship for all students (BTech, MTech, PhD, MDes etc.)

i. Novel Engineering Science BTech program: For the first 2 years the student does basics courses in Math, Physics, Chemistry, and all different fields of engineering. In the last 2 years the student then specializes in any field of his/her choice. The specialization can be in any branch of engineering like Computer Science and Engineering, Electrical, Mechanical, Chemical, Civil, Material Science, BioTech, Biomed etc. or Physics, or Mathematics, or Chemistry, or Economics, or Psychology, or Design, etc. The final degree will read: BTech in Engineering Science with Specialization in XXX.

j. Large number of electives in all programs in the final 3 semesters.

Research and Career Opportunities

1. Is it possible to do research while being a BTech student at IITH?

Invention and innovation are the bywords for IITH. Most courses have some form of project work included in them. IITH is also unique in terms of the credit requirements: its 125-130 credit program facilitates a minimalistic coursework footprint ensuring that the students have ample scope for research work. There are also a number of funded research projects being carried out by our faculty and there is an opportunity for any interested student to participate in these.

2. What opportunities are there for interaction with other institutes?

There is a formal agreement with a consortium of Japanese institutions which runs the JENESYS programme which is aimed at providing research opportunities for students. We also have MOUs with reputed universities in the US which facilities academic exchange. We encourage our undergraduate students to apply for summer internship programmes offered by IISc and IITs and our faculty are also hosting students from other institutions. IITH is in the process of setting up double degree program with some universities in Japan. Information will be available with the academic office in due course of time. The students will receive degree from IITH as well the foreign university as a part of this program.

3. What opportunities are there at campus for entrepreneurially motivated students?

Academically, there is a minor offered in Entrepreneurship with active participation from renowned industrial leaders for all students (BTech, MTech, PhD, MDes etc.). There is an active e-cell, a student club at IITH. In addition to these, IIT hyderabad has a registered incubation centre called i-TIC (IIT Hyderabad Technology Incubation centre). Its purpose is to provide support to budding startups. A research park is also planned at IITH in the near future. The i-TIC is open to all IITH fraternity. The incubation centre can be contacted via email to itic@iith.ac.in

3. Can I do internship during my undergraduate studies?

While summer internship is not a specific part of our undergraduate curriculum, our students are doing summer internships and research programmes in the industry as well as in the academia. The summer break at IITH lasts for about two and a half months which is at

the disposal of the student to do internships. We also have a Placement Cell which coordinates internship activities and opportunities.

4. Can I also gain experience as a Teaching Assistant (TA) during my UG?

Yes, interested senior undergraduate students can act as Teaching Assistants for beginner courses. Usually, the students are expected to put in six hours of work every week for this. They will also be eligible for some stipend for the Teaching Assistantship.

Fees and Scholarships

1. What are the fees that I have to pay?

Our fees, both for tuition and hostel, are about the same as those at other IITs. Please visit the following page for more details: http://academics.iith.ac.in/feestructure.html

2. What scholarships are available?

The government-sponsored scholarships available at IITH are similar to those at other IITs. Please visit the following page for more details: http://academics.iith.ac.in/scholarship.html

3. Is it possible to get educational loans?

Yes, the in-the-campus branch of State Bank of India offers educational loans, as may do other banks and financial institutions.

Life on Campus

1. How many students are there?

There will be about 2000 students on campus by August 2016.

2. How is the hostel accommodation?

IITH is a fully residential campus and students are offered on-campus accommodation inside permanent campus in Kandi and within walking distance from the academic zone. Till the construction of the remaining hostels at Kandi is complete, some of the students will be staying in the temporary campus in ODF. Bus facility is available at regular intervals in a day for the students to commute from ODF hostel to academic zone in Kandi. It typically takes 20mins to travel between the permanent and the temporary campus.

3. How many students are allotted per room?

Single rooms are allotted for students in the Kandi Campus. Two students will be allotted per rooms in the ODF campus. However, gradually these students will be allotted single rooms in Kandi as the construction progresses.

4. How are roommates chosen?

Roommates are chosen based on random allotment. More details will be given on the day of joining.

5. What does one do for food?

Private agencies offer mess facilities for students in the hostel zone. Additionally, there is a canteen and juice shop available near the hostels inside the campus. You can even order a pizza from Sangareddy! Shiru Cafe in the Academic Block serves complimentary beverages for the students.

6. Are there separate girls' hostels?

Yes, all girl students are housed in separate hostels. Extra security is provided for these units by posting round-the-clock security men. Males are not permitted to enter the girl's hostel.

The girls are also required to take permission from the warden if they need to stay out of the hostel overnight.

7. What sports facilities are there?

The facilities for most of the popular sports, including cricket, football and basketball, are available. Students participate enthusiastically in sports activities.

8. What are the main fests of the college and what is the scope for cultural/extracurricular activities?

We have NVision (Inter-college Techno-Management festival) and ELAN (Cultural and Technical Fest of IITH). There are active TEDex and Spicmacay chapters at IITH organizing regular talks and concerts, respectively. In addition to these, there are clubs, societies, sports leagues and programmes that students can participate in, as per their choice.

9. Do IITH students take part in inter-IIT competitions?

Yes, IITH students do take part in inter-IIT competitions. As the student strength increases, one can foresee more participation in team events too.

10. Is IITH a safe place?

Absolutely. All IITH zones (academic, hostel and research) are under constant surveillance by a reputed private security agency.

11. Is ragging prohibited?

IITH operates a policy of "zero tolerance on ragging". Those indulging in ragging will be severely punished. IITH also runs an anti-ragging telephone helpline and also has student counsellors acting as mentors to new students.

12. What is the expected code of conduct by students at IITH?

Students are expected to adhere to the rules and regulations of the institute. Any kind of unethical activities such as copying, plagiarism will attract strict action including rustication. Drug abuse, smoking and liquor consumption are prohibited on campus.

13. What kind of help is provided to a student in trouble?

IITH has a system of faculty advisors where a faculty member is assigned to look after the general welfare of a set of students. The faculty advisors offer all the necessary guidance and help in academic matters, and, if need be, in personal matters. We also have a guidance and counselling unit and student mentors who can help and offer advice in all kinds of matters.

For your information,

- SBI - IITH branch is located well within the campus.
- The ATM's of 'SBI' and 'Canara bank' are available within the campus.
- The route map to reach IITH from all nearby railway stations, airport and bus stands are provided in https://iithadmissions.wordpress.com/how-to-reach-iit-h/
- IITH has a dedicated permanent medical officer to cater to student's medical needs. Emergency medical services are provided free of cost by the ODF hospital for the students of IITH. For further medical assistance institute provides private vehicle if necessary.

Location and Access

1. Where is IIT Hyderabad?

IIT Hyderabad is currently operating both from temporary campus located inside the Government Ordnance Factory (ODF) and permanent campus in Kandi which is about 8 to 10 km from ODF campus. Classrooms, labs and hostels are located both in ODF and Kandi campus.

2. Is it well connected with the outside world?

The temporary campus is located within a one-hour drive by car from the international airport. It is also well-connected by road to the twin cities of Hyderabad and Secunderabad. The road journey to key locations in Hyderabad/ Secunderabad takes about two hours by public transport system. Uber and YatraGenie are some of the cab services which provide services from Kandi campus.

3. Are there any medical facilities inside the campus?

IITH has a dedicated medical officer and a dedicated ambulance stationed in the Kandi campus. Students can also avail the medical facilities in the ODF hospital.

4. What amenities, e.g., shopping, are available at IITH?

There exist stationary, xerox, saloon and laundry facilities in the Kandi campus. In addition, Sangareddy town which is within 3kms from the Kandi campus offers lot of shopping and dining options. All the amenities such as hospitals, shopping, sports facilities etc., are also available within the ODF township and are within walking/cycling distance.

4. What does one do in an emergency?

For medical emergencies, the primary health centre operated by the ODF offers its services, which also cater to the 15000+ employees and their staff of ODF. More medical facilities are available at BHEL/Ramachandrapuram which is about 25 km away. Private taxi transport to BHEL/Ramachandrapuram or even to Hyderabad/Secunderabad can be arranged by IITH at short notice.

5. Where is the Permanent Campus and when will it be ready?

The permanent campus site of IIT Hyderabad is a 576 acre plot abutting NH-9 at Kandi village, Medak District, Telangana state. It is planned as a residential campus to accommodate a total population of 30,000, including 20,000 students with a total built up area of 2.1 million square meters. The campus consists of academic area, residential area for students, residential area for faculty and staff and other support facilities. The growth of the campus is planned in three phases with a corresponding increase in the physical infrastructure and support facilities to accommodate an increase in the number students in established programs and new programs of the future.