

# INDIAN INSTITUTE OF TECHNOLOGY GANDHINAGAR

## NORMS FOR MTech PROGRAMME

(As approved by Senate in its 4th meeting held on 2nd December 2010, updated in the 24<sup>th</sup>/36<sup>th</sup>/39<sup>th</sup>/44<sup>th</sup>/60<sup>th</sup>/63<sup>rd</sup> meetings of the Senate)

The MTech programme at IITGN will be of two years duration and will consist of coursework as well as a project/thesis leading to a dissertation, with equal emphasis placed on both these aspects. The coursework would be broad-based to provide knowledge in the field a student wishes to pursue. The project would serve to engage and train students to inculcate in them the abilities for independent thinking, and to integrate knowledge towards the solution of R&D problems. The programme will aim at graduating well-rounded engineers ready to pursue leadership careers in R&D, teaching or industry.

### A. Credit Requirements:

- Students will require **32-48 credits of course work, 32-48 credits of thesis** and **2 credits of postgraduate orientation programme Aarohan**. Note that the **total minimum credit requirement is 82**. [*Note: The disciplines may specify a minimum course work/thesis work requirement of more than 32 credits.*]

#### 1. Course Work:

- The course work will consist of the following components:
  - The **4-credit “Writing” course** will be required for all students.
  - In addition to this, **at least 4 credits** will have to be earned through Humanities and Social Sciences (**HSS**) **courses**. One undergraduate level HSS course may be counted towards this requirement.
  - Students must take **at least 8 credits of electives** inside or outside the discipline. The choice of elective courses will be the student’s discretion, but must be taken in consultation with the faculty advisor.
  - Students must take **at least 16 credits of courses specified by the discipline**. Importantly, this does not mean only the courses of the student’s home discipline. For instance, a discipline may specify that a certain Mathematics course is required for all its students; such a course will be included in this basket. [*Note: Please check with the discipline to see the list of courses which can be counted under this basket.*]
  - **Two undergraduate level courses** (with course codes 1XX to 5XX) may be counted towards graduation requirements (besides one UG level HSS course).
  - Students joining the MTech programme (from semester – I, 2021-22 onwards) must complete **two Physical Education (PE) courses**, one each in their first two semesters, as part of their graduation requirements. These courses will be evaluated on a Pass/No Pass grade basis.
  - Completing PG Orientation Programme **Aarohan (2 Credits)** is a **mandatory graduation requirement** for all MTech students. It is a two-week long programme that all the newly joined students are expected to successfully complete before they commence the first semester in their academic programme.

- Successful completion of the program may be mandatory for release of fellowship to the students.
- In cases where a student fails to clear *Aarohan*, they must clear an additional two credits worth of HSS courses for graduation (applicable for all students who join from Semester – II, 2022-23 onwards).

## 2. Thesis/Project:

- Although students will be required to earn equal credits for the thesis and coursework, the open-ended nature of the project will demand considerably more time compared to the coursework. Following are some the procedural details of the thesis/project work:
  - Thesis work can be research-oriented, developmental, industrially relevant, or a combination of these. The type of work selected for the thesis would primarily depend on the interest of the student and the faculty supervisor(s).
  - Thesis will be **open ended with no deadline for submission**. A student may submit when the work is completed to the satisfaction of the supervisor(s).
  - As a bench mark of expectations, it is **expected that the work carried out for an MTech thesis will be published in a reputed scholarly peer-reviewed journal or conference proceedings**. The Institute may review periodically the percentage of theses meeting this criterion (that is, if the work of thesis has been published) to assess the health of its MTech programme and make appropriate changes in structure of the programme.
  - Students should **select the area and type of work at the end of the first semester** and identify a faculty member willing to act as thesis supervisor. Thesis co-supervision by up to two faculty members may be permitted. It will also be possible for the students to choose supervisor from disciplines other than their own discipline, if appropriate. In some cases, one thesis supervisor may be from outside the Institute, but the total number of supervisors will still not exceed two.
  - It is normally expected that **students will not register for the thesis in their first semester**, while they would register for thesis credits in the remaining three semesters.
  - Most MTech students will be receiving Government funded scholarship and are **expected to spend winter and summer vacation period towards their thesis research**. For instance, the students will be expected to **register for about 10 credits of thesis in summer** unless there is a specific waiver on justifiable grounds.
  - Each student would have a **three or four member "thesis committee" chaired by thesis supervisor**. The Committee will **periodically monitor progress** of the student and advise on mid-course corrections.
  - A student registered for thesis units will be required to **submit a research report and make an oral presentation to the thesis committee** on the work performed during the semester.

- Based on the report and presentation, thesis supervisor(s) in consultation with the committee, will award a satisfactory or unsatisfactory (S/U) grade for each discrete credit of thesis work. **A thesis credit which is awarded U grade will not be counted towards completion of the required thesis credits**, and will, therefore, have to be repeated by the student in a later semester or during summer. Grades of thesis units are not counted for the calculation of SPI/CPI.
- **(For students admitted from AY 2023-24)** The thesis units will be graded using **A, B, C and F grades**, where A, B and C are passing grades and F is a fail grade. A student may register for one 4 credit thesis unit or a multiple of it and can be graded according to the number of units which they have registered for. **If a student accumulates F grades in more than 20 credits of thesis units any time during their MTech programme, the student will have to exit the programme.**
- Thesis grades will not be counted towards CPI calculation.
- PGDIIT can be awarded to regular MTech candidates who successfully finish the coursework requirement of 32-48 credits but do not wish to register for Thesis work or are not found suitable for Thesis work by the “thesis committee”. However, an award of PGDIIT to such candidates is **contingent upon the Institute approval** and such candidates may have to **refund the scholarship** received by him/her during the period of coursework.
- A summary of the credits requirements is mentioned in the table below (*Note: The disciplines may specify a credit requirement which is different from the table given below*):

Course	Credits
Writing	4
HSS	At least 4
Electives	At least 8
Courses specified by the discipline	At least 16
<b>Total Coursework Credits</b>	<b>32 - 48</b>
<b>Additional Graduation Requirements</b>	
<b>Thesis Credits</b>	<b>32-48</b>
Aarohan	2
PE courses (2 courses)	0
<b>Total Credits</b>	<b>80 + 2 (Aarohan)</b>

#### **B. Academic Performance Requirements:**

##### **(Applicable for Students Admitted from AY 2023-24)**

- There will be **no maximum permissible duration** to complete the requirements of the programme. However, at any time, **credits earned older than eight years will be deemed expired** and will not count towards the graduation requirements. After 7 semesters, a request from the student is needed to extend the programme on a semester by semester basis.
- In case the **CPI of a student falls below 6.0 out of 10**, the fellowship provided, if any, by the Institute will be stopped immediately and for the future.

- If a student accumulates **F grades in more than 20 credits of thesis units** any time during their MTech programme, the student will have to exit the programme.

**(Applicable for Students Admitted before AY 2023-24)**

- The minimum **CPI for graduation is 6.0** out of 10.
- The **minimum CPI for continuing in the programme at any point is 5.5** out of 10. That is, if at any stage, the student has a CPI less than 5.5, the programme will be terminated.
- In case the CPI of a student falls below 6.0 or the student accumulates three or more Us towards thesis grades at any point of time, the fellowship provided by the Institute will be stopped permanently. The student may seek financial support from projects or other Institute activities through individual effort.
- In exceptional cases, continuation of the fellowship may be approved by the Director on recommendation of Dean, Academic Affairs.
- Full-time MTech students will have a maximum of three years to obtain the degree.
- Students may opt for the rules for termination as applicable for students admitted from AY 2023-24.