

Master of Technology

Programme Ordinance



Indian Institute of Information Technology Vadodra

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Table of Content

MTR 1. PROGRAM OVERVIEW	4
MTR 2: ACADEMIC CALENDAR	5
MTR 3: ADMISSION	6
MTR 4: ATTENDANCE AND LEAVE OF ABSENCE	7
MTR 5: CONDUCT AND DISCIPLINE	8
MTR 6. PROGRAM STRUCTURE	9
MTR 6.1 Areas of Specialization	9
MTR 6.2 Credit Structure of M. Tech (Project Mode)	11
MTR 6.3 Credit Structure of M. Tech (Thesis Mode)	12
MTR 7 REGISTRATION	13
MTR 7.1 Procedure for Registration	13
MTR 7.2 Eligibility for Course Registration	13
MTR 7.3 Pre-Requisite Courses	13
MTR 7.4 Withdrawal from Semester and Discontinued for Failing to Register	13
MTR 8 COURSE ASSESSMENT AND MODES OF ASSESSMENT	15
MTR 8.1 Course Assessment	15
MTR 8.2 Grading	15
MTR 9 REPEATING A COURSE	17
MTR 9.1 Backlog Course	17
MTR 9.2 Grade Improvement	17
MTR 10 PERFORMANCE INDICES	18
MTR 10.1 Semester Performance Index (SPI)	18
MTR 10.2 Cumulative Performance Index (CPI)	18
MTR 10.3 Calculating SPI and CPI	18
MTR 11. ACADEMIC REQUIREMENT	20
MTR 12 PROJECT/THESIS REQUIREMENTS	21
MTR 12.1 M. Tech. with Project	21
MTR 12.2 M. Tech. by Thesis	21
MTR 12.3 Switching Programs	21
MTR 13 FINANCIAL DETAILS	22
MTR 13.1 Fee Structures	22
MTR 13.2 Financial Assistance	22
MTR 13.3 TA Evaluation	22
MTR 14 LEAVE RULES	23
MTR 15. DISSERTATION	24
MTR 16 AWARD OF DEGREE	25
M Tech Ordinance (2019) 2	

MTR 16.1 The M Tech (CSE) Degree will be conferred on a student after he/she has fulfilled the graduation requirements stipulated in the curriculum (as approved by the Senate).	25
MTR 16.2 Final CPI and Class:	25
MTR 16.3 Certificate of Academic Accomplishment:	25
MTR 17. CODE OF CONDUCT	26

EXTRACTS FROM IIIT (PPP), ACT 2017

The following are the extracts from THE INDIAN INSTITUTES OF INFORMATION TECHNOLOGY (PUBLIC-PRIVATE PARTNERSHIP) ACT, 2017 (NO. 23 OF 2017)

Section 33: Subject to the provisions of this Act and the Statutes, the Ordinances of every

Institute may provide for all or any of the following matters, namely: —

- a. the admission of the students to the Institute;
- b. the courses of study to be laid down for all degrees and diplomas of the Institute;
- c. the conditions under which students shall be admitted to the degree or diploma courses and to the examinations of the Institute, and shall be eligible for degrees and diplomas;
- d. the conditions of award of the fellowships, scholarships, exhibitions, medals and prizes;
- e. the conditions and mode of appointment and duties of examining bodies, examiners and moderators;
- f. the conduct of examinations;
- g. the maintenance of discipline among the students of the Institute; and
- h. any other matter which by this Act or the Statutes is to be or may be provided for by the Ordinances.

Section 34:

1. Save as otherwise provided in this section, Ordinances shall be made by the Senate.
2. All Ordinances made by the Senate shall have effect from such date as it may direct, but every Ordinance so made shall be submitted, as soon as may be, to the Board and shall be considered by the Board at its next meeting.
3. The Board shall have power by resolution to modify or cancel any such Ordinance and such Ordinance shall from the date of such resolution stand modified accordingly or cancelled, as the case may be.

MTR 1. PROGRAM OVERVIEW

Master of Technology (M.Tech.) in Computer Science & Engineering program is designed to include advanced coursework along with minor and a major project. The students interested to pursue a research oriented career are provided with an option to take up thesis work for a year in place of projects.

The first semester is aimed at laying down the foundation necessary for the computer science discipline. It gives students an opportunity to tune into the instructional philosophy and pedagogy of learning at IIT Vadodara. Subsequent semesters provide avenues for specializing in one or more areas of computer science.

MTR 2: ACADEMIC CALENDAR

2.1 Each academic session is divided into two semesters of approximately eighteen weeks duration (with at least seventy working days for classes in each semester). The Sessions include an Autumn semester (July to November) and a Winter semester (January to April).

2.2 The Senate approved schedule of academic activities for a session, inclusive of dates for registration, mid-semester and end-semester examinations, inter-semester breaks etc, shall be laid down in the Academic Calendar for each academic session.

MTR 3: ADMISSION

3.1 The number of seats in the programme for which admission is to be made at the IIIT Vadodara will be decided by the Senate. Seats are reserved for candidates belonging to Other Backward Classes (OBC), Scheduled Castes (SC), Scheduled Tribes (ST), and physically challenged (PC) candidates as per Government of India norms.

3.2 Admission to the M.Tech programme in any year will be as per orders from the Government of India. Currently these are based on performance in the Graduate Aptitude Test Engineering (GATE) and qualifying Undergraduate degrees guidelines through a counselling conducted by the CCMT for the respective year.

3.3 Every student, admitted provisionally or otherwise to any M.Tech Programme of the Institute, shall submit copies of the qualifying degree/provisional certificate and such other documents as prescribed by the Senate. These documents must be submitted by the prescribed date. The admission, provisional or otherwise, of any student who either does not submit the required documents by the stipulated date or fails to meet any other stipulated requirement for admission can be cancelled by the Institute.

3.4 The admission of any student may also be cancelled by the Senate, at any later time, if it is found that the student had supplied some false information or suppressed some relevant information while seeking admission.

3.5 The Institute reserves the right to cancel the admission of any student and ask him/her to discontinue his/her studies at any stage of his/her career on the grounds of unsatisfactory academic performance or on disciplinary grounds.

MTR 4: ATTENDANCE AND LEAVE OF ABSENCE

4.1 (a) Students are required to attend all the classes (Lectures, Tutorials, Laboratories, Practical, Workshops etc) for which they have been registered.

(b) Students will have to attend all classes. A student may be debarred from appearing in an end semester examination if his/her attendance falls below 75 percent and will then be awarded an “F” grade in that course.

Leave Of Absence

4.2 (a) Students are not expected to be away from the Institute during a semester.

(b) Students may be granted leave of absence on situations like death in the immediate family circle. Such leave will in no case exceed one week.

(c) Absence due to illness not exceeding three weeks will be allowed after taking due permission. Due to emergencies, such permission may be taken later, and by the guardian if necessary.

(d) If the period of absence in a semester exceeds three weeks, the student will have to drop the semester by dropping all courses he /she has registered for. The Senate may allow longer absences only in special circumstances and only after ascertaining the student’s ability to make up for the lost time.

(e) The leave of absence as per this clause will not be condoned for attendance.

4.3 It will be the responsibility of the student to intimate the Warden of the hostel in which he/she is residing, and the concerned instructors regarding his/her absence before proceeding on leave.

MTR 5: CONDUCT AND DISCIPLINE

5.1 Students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an institution of national importance.

5.2 For all issues related to student discipline, the general guidelines are prescribed in the Academic Ordinance - Manual of student discipline.

MTR 6. PROGRAM STRUCTURE

Education at the Institute is organized around the semester-based credit system of study. A student is allowed to attend classes in a course and earn credit for it, only if he/she has registered for that course. Prominent features of the credit system are a process of continuous evaluation of a student's performance/progress and flexibility to allow a student to progress at an optimum pace suited to his/her ability or convenience, subject to fulfilling minimum requirements for continuation and within maximum allowable period for completion of a degree. A student's performance/progress is measured by the number of credits that he/she has earned, i.e. completed satisfactorily. Based on the course credits and grades obtained by the student, grade point is calculated. A minimum grade point is required to be maintained for satisfactory progress and continuation in the programme. Also a minimum number of earned credits and a minimum grade point should be acquired in order to qualify for the degree.

1 Teaching of the courses shall be reckoned in credits; Credits are assigned to the courses based on the following general pattern:

1 hour Lecture (L) per week	1 Credit
1 hour Tutorial (T) per week	1 Credit
2 hours Laboratory (L) per week	1 Credit
3 hours Laboratory (L) per week	2 Credits

2 In order to qualify for a M. Tech. degree of the Institute, a student is required to complete the credit requirement as prescribed in the curriculum for a particular programme.

3 M. Tech. Programme will have a curriculum and syllabi for the courses approved by the Senate.

4 Medium of instruction, examination and project reports will be in English.

5 Faculty Supervisor: To conduct thesis/ project (in the final year) every student will be allotted a faculty supervisor and a Co-supervisor (if required).

MTR 6.1 Areas of Specialization**(a) Computer Vision, Graphics and Multimedia**

The fields of graphics, vision and imaging increasingly rely on one another. This specialization provides advanced training in computer graphics, computer vision, geometric processing and multimedia, enabling students to specialize in any of these areas and gain grounding in the others.

Students will understand the basic mathematical principles underlying the development and application of new techniques in computer graphics and computer vision and will become aware of the range of algorithms and approaches available, and be able to design, develop and evaluate algorithms and methods for new problems, emerging technologies and applications.

(b) Data Analytics

It is an interdisciplinary specialization designed to meet the huge manpower shortage in the area of data analytics. The specialization trains students in computational techniques and systems to draw insights from data in a variety of application domains.

(c) Signal and Information Processing

The program has been specially designed to meet the increasing need of professionals who would be able to respond to the need of modern day signal and data processing/analysis tasks. It is meant for students who wish to build a professional career oriented towards research and development, working at the cutting edge technology in the area of Signal and Information Processing. The curriculum is developed keeping in view the convergence of signal and information processing paradigm with data analytics. It is a step forward towards data processing and analysis for signal processing background students.

The Institute will include other specialization as and when the academic programmes expand.

MTR 6.2 Credit Structure of M. Tech (Project Mode)

Semester		Courses	Credit Structure (L-T-P-C)	Credits
I		Core Course - I	3-0-0-3	3/4
		Core Course - II	3-1-0-4	3/4
		Core Course - III	3-0-2-4	3/4
		Programme Elective Course I	3-0-0-3	3/4
		HS Course	2-0-0-2	2
			Total	16-18
II		Core Course IV	3-0-2-4	3/4
		Core Course V	3-0-0-3	3/4
		Core Course VI	3-0-2-4	3/4
		Programme Elective Course II	3-0-0-3	3/4
		Technical Writing	2-0-0-2	2
			Total	16-18
III		Program Elective – III	3-0-0-3	3/4
		Program Elective – IV	3-0-0-3	3/4
		Program Elective – V	3-0-0-3	3/4
		Program Elective – VI	3-0-0-3	3/4
		Minor Project		3
			Total	15-18
IV		Major Project		15
			Total	15
			Grand Total	62

MTR 6.3 Credit Structure of M. Tech (Thesis Mode)

Semester		Courses	Credit Structure (L-T-P-C)	Credits
I		Core Course - I	3-0-0-3	3/4
		Core Course - II	3-1-0-4	3/4
		Core Course - III	3-0-2-4	3/4
		Programme Elective Course I	3-0-0-3	3/4
		HS Course	2-0-0-2	2
			Total	16-18

II	Core Course IV	3-0-2-4	3/4
	Core Course V	3-0-0-3	3/4
	Core Course VI	3-0-2-4	3/4
	Programme Elective Course II	3-0-0-3	3/4
	Technical Writing	2-0-0-2	2
		Total	16-18
III	Program Elective – III	3-0-0-3	3/4
	Program Elective – IV	3-0-0-3	3/4
	Program Elective – V	3-0-0-3	3/4
	Program Elective – VI	3-0-0-3	3/4
	Minor Project		3
		Total	15-18
IV	Major Project		15
		Total	15
		Grand Total	62

MTR 7 REGISTRATION

At the beginning of each semester, until the completion of the program, every student must register for the semester and for the courses that he/she will study during the semester.

MTR 7.1 Procedure for Registration

The registration schedule is announced in advance, and registration is normally carried out within the first two days of each semester through the prescribed procedure by the Registrar. Late registration may be permitted for valid reasons on submission of an application to the Registrar, and only on payment of the prescribed late registration fee. In any case, registration must be completed before the prescribed last date for late registration in the Academic Calendar. Students having any outstanding dues to the Institute or hostel will not be permitted to register.

MTR 7.2 Eligibility for Course Registration

A student with no backlog courses (i.e. who has passed all the previous courses) will be eligible to register for all courses prescribed in the curriculum for that semester, inclusive of the specified number of electives. A student who has backlog course(s) or is on probation may be recommended a different set of courses, by the Dean (Academic Programs).

MTR 7.3 Pre-Requisite Courses

A student registering for a course must have successfully completed the Prerequisite course(s), if any, for that particular course.

MTR 7.4 Withdrawal from Semester and Discontinued for Failing to Register

- a. A student who wishes to withdraw prior to registration for a semester must obtain a formal approval from the Dean (Academic Programs) before the prescribed last date for late registration for the concerned semester. Withdrawal after registration for a semester is permitted only on medical grounds or for other exceptional reasons and formal approval for such withdrawal must be obtained from the Dean (Academic Programs) before the date of commencement of the end-semester examination for the concerned semester. Withdrawal from a semester, either prior to registration or after registration is permitted for only one semester at a time. If a student does not register for a regular semester or does not withdraw with permission from the Dean (Academic Programs) as indicated above, he/she will be discontinued from the Institute.
- b. A student who registers for a semester after having withdrawn in the previous semester(s) can register for the available courses as prescribed in the curriculum for that particular semester subject to the pre-requisites, if any.
- c. The transcript of a student who has “withdrawn” status would show the appropriate status for the concerned semester(s). The transcript of a student who is suspended for an academic or disciplinary reason would also show “withdrawn” status.

MTR 8 COURSE ASSESSMENT AND MODES OF ASSESSMENT**MTR 8.1 Course Assessment**

The various modes of assessment used for rating students' performance in a course include home assignments, tutorial assignments, laboratory work, group assignments, quizzes, tests (open or closed book), viva-voce, mini projects, etc. and the end-semester examination. Attendance in lectures/labs/tutorials may also be given due weightage in course assessment. The instructor may make attendance in lectures/tutorials/labs compulsory (80% or less) and after consulting the Dean (Academic Programs), award "F" grade to students who do not achieve the prescribed level of attendance in that course.

The distribution of weightage for the assessment (continuous evaluation) through the various modes listed above will be as indicated by the course instructor at the beginning of the semester after taking due approval from the director. Note: Academic requirements such as projects and summer assignments, which are prescribed in the curriculum, are regarded as courses for the purpose of assessment.

MTR 8.2 Grading

- a. For every course taken by a student, he/she is awarded a letter grade based on his/her combined performance in all the assessments. These letter grades are assigned points on a 10-point scale as described in the table below

Letter Grade	Corresponding Points	Explanation
AA	10	Outstanding
AB	9	Excellent
BB	8	
BC	7	
CC	6	
CD	5	
DD	4	
F	0	Fail
I	-	Incomplete
P	-	Passed

- b. A student passes the course if he/she gets any grade in the range of AA to DD, but fails if he/she gets the grade F. Certain courses are indicated as Pass/Fail courses, and in these courses a grade of P or F is awarded. F grade may also be awarded in case of malpractice in examination/continuous evaluation process. Pass/Fail courses are not considered for calculation of SPI/CPI.
- c. "I" grade will be awarded in a course if the overall performance of the student is satisfactory in the course, but the student either misses the end-semester examination due to illness, accident/death in

the family or obtains such an approval from the Dean (Academic Programs) under exceptional circumstances. A student who misses the end-semester examination must apply and his/her application must be supported (i) by proper medical certificate duly approved by the Medical Authority of the Institute in the case of illness, or (ii) by adequate evidence in the event of death in the family. An application not so supported will not be considered. Grade "I" awarded for missing the end-semester examination will be converted into a performance grade (depending on the overall performance of the student in the course) after taking an examination equivalent to the end-semester examination of that particular course. An "I" grade must be converted into a performance grade by the specified date in the academic calendar for the next semester, otherwise it will be converted into "F" grade.

MTR 9 REPEATING A COURSE

MTR 9.1 Backlog Course

A student must repeat a course in which he/she has obtained an F grade in a course taken for credit. Such a course is regarded as a backlog course and is subject to the regulations for registration. A backlog elective course can be replaced by another elective of the same category.

MTR 9.2 Grade Improvement

A student whose CPI is less than 5.0 is allowed to repeat a course in which a DD grade was obtained for the purpose of grade improvement in a regular semester only. The grade obtained in the repeated attempt will be considered for the purpose of calculating the CPI. The grade obtained in the first attempt will be shown in the Transcript, but will not be considered for calculating the CPI.

MTR 10 PERFORMANCE INDICES

MTR 10.1 Semester Performance Index (SPI)

The performance of a student in a semester is indicated by the Semester Performance Index (SPI). The SPI is the weighted average of the grade points obtained in all the courses registered by the student during the semester, calculated to two decimal places.

MTR 10.2 Cumulative Performance Index (CPI)

An up-to-date assessment of the overall performance of a student from the time of entering the Institute is obtained by calculating the student's Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered for credit by the student after entering the Institute. The CPI is also calculated to two decimal places.

MTR 10.3 Calculating SPI and CPI

The SPI is an indicator of the overall academic performance of a student in all the courses he/she has registered during a given semester. It is computed as follows:

If the grades (numeric values as per MTR 10.2) awarded to student are G_1, G_2, \dots etc. in courses with corresponding credit units U_1, U_2, \dots etc., the SPI is given by

$$\text{SPI} = (U_1G_1 + U_2G_2 + \dots) / (U_1 + U_2 + \dots)$$

In the above computation, courses with P grades are ignored. Similarly, the CPI indicates the cumulative academic performance in all the courses taken including those taken in the current semester as

MTR 11. ACADEMIC REQUIREMENT

11.1 Typical duration of the M. Tech programme is 02 years. A student has to complete all the academic requirement to earn an M. Tech degree within a maximum of 03 years.

11.2 A student has to secure minimum CPI of 6.0 for the graduation.

11.3 A student needs to maintain minimum CPI of 5.0 for the continuation in programme.

11.4 Students have to earn minimum of 62 credits in either M. Tech (Project Mode) or M. Tech (Thesis Mode)

11.5 A semester load is defined as equivalent of 12 credits. A student registered for a full semester load solely by course work would typically take 4 courses. Depending on the merits of the case, the Post Graduate Committee (PGC) may permit a student to register for a maximum of 20 credits or a minimum of 9 credits.

MTR 12 PROJECT/THESIS REQUIREMENTS

MTR 12.1M. Tech. with Project

1. Minor and Major projects are in the area of specialization adding to 18 credits. The supervisor certifies that the project is in the area of specialization.
2. Minimum 12 credits are earned from the basket of specialization specific program electives.
3. Students may opt for an industrial project as major project.

MTR 12.2M. Tech. by Thesis

Student entering the M. Tech by Thesis program is expected to carry out research during the second year, beginning in the summer semester (around May, i.e., end of second semester) and ending around the next summer semester (around June/July). The student will carry out research under the supervision of a faculty member at IIIT, Vadodara.

On completion of first year, three member Research Progress Committee will be formulated for each student based on his/her area of research.

Students will have to present the status of their research work continuously in the form of Research Progress Seminars scheduled in July/August, November/December and March/April in front of the committee. Finally, at the time of thesis evaluation, a thesis examination committee will be constituted by the Director in consultation with the Dean Academic Program. A Public Thesis Defense will be scheduled after successful completion of research progress seminars and thesis evaluation by the thesis examination committee.

MTR 12.3 Switching Programs

It is possible to switch program of study mid-way. Interested students who have demonstrated excellent research potential have the opportunity to convert to the PhD program.

MTR 13 FINANCIAL DETAILS

MTR 13.1 Fee Structures

The fee structure for M Tech Programme will be provided by institute every year with approval of BoG.

MTR 13.2 Financial Assistance

Eligible students will be provided financial assistance in terms of teaching assistantship (TAs hip). The eligibility criteria and the amount of TAs hip are as follows:

A student securing minimum CPI of 6.5 is eligible for full TA/RA ship as per the guidelines by Government of India. A Student with CPI 6.0 is restricted to half TA/RA ship. Full TA ship will be equal to TA Provided to M.Tech. students at CFTIs decided by MHRD from time to time.

*Note that, CPI is not the only criteria for availing Full/Half TAs hip from the second semester onward.

MTR 13.3 TA Evaluation

There will be “TA Evaluation Form” for performance evaluation of a TA by the Course Instructor. For every subsequent semester, TAs CPI and Feedback from Course Instructor will be considered as criteria for deciding on next semester TAs hip.

MTR 14 LEAVE RULES

Leave rule for MTech students those who are receiving Institute scholarship:

14.1 The following rules are applicable with respect to receiving scholarship. The attendances for the courses will be governed by the academic regulations.

14.2 Total number of days of leaves per year is 30 days.

14.3 During the period of academic session (not defined as vacation for faculty), the student can avail at most 7 days of leaves in a semester. Remaining days of the leaves can be availed during the vacation period.

14.4 M. Tech students are not eligible for vacation.

14.5 Longer duration of leaves (beyond 7 days) can be permitted with the approval of the Director.

14.6 Female students will be eligible for maternity leaves at par with regular employee of the Institute.

MTR 15. DISSERTATION

15.1. The oral examination for students will be conducted before close of academic calendar for the academic year. If a student does not appear in the oral examination within this time period, his/her programme would be deemed to have been terminated. Request for reinstatement in the programme by such a student should be addressed to the PGC, Dean (AP), and the Director.

15.2. The thesis supervisor / PGC will intimate the date of the oral examination.

15.3. The oral examination committee will evaluate the thesis/project, conduct the oral examination and send a report of the examination to the Convener, PGC.

15.4. A thesis will be considered to have been accepted if all members of the oral examination committee recommend its acceptance. A thesis, which is not accepted, will be considered to have been rejected.

15.5. If a thesis is rejected along with a recommendation for resubmission after incorporating any modification/correction suggested by the oral examination committee, oral examination of the re-submitted thesis/project will be conducted by the original committee unless a different committee is approved by the Convener, PGC. If the re-submitted thesis is rejected, the matter will be reported to the Dean (AP) and the Director.

15.6. Acceptance of thesis/project will be reported to the Dean (AP) for approval.

MTR 16 AWARD OF DEGREE

MTR 16.1 The M Tech (CSE) Degree will be conferred on a student after he/she has fulfilled the graduation requirements stipulated in the curriculum (as approved by the Senate).

MTR 16.2 Final CPI and Class:

For the purposes of computing the CPI at the end of the program, the student's CPI will be computed on the basis of the best CPI obtainable from the courses taken. The Transcript will indicate Distinction if the student obtains a CPI of 9.0 or above and First Class if the student obtains a CPI of 6.5 or above but less than 9.0.

MTR 16.3 Certificate of Academic Accomplishment:

A student who is unable to complete the degree requirements within the stipulated maximum period would be eligible to receive a "Certificate of Academic Accomplishment" by applying for it. The eligibility criteria and procedure for issue of the Certificate would be as laid down by the Institute senate from time to time.

MTR 17. CODE OF CONDUCT

IITV is an institute of academic excellence. A positive learning environment provides opportunities for students to practice good citizenship in the larger society and to practice respectful dissent. These are the practices and qualities that the Student Code of Conduct encourages.

The Student Code of Conduct serves as a reference and working guide when attempting to resolve student disciplinary issues. The student discipline manual is approved from time to time will provide the frame work for code of conduct for students. .

Disciplinary Action Committee (DAC)

Dean (Students), Convener (ex-officio)

Hostel Executive Committee (HEC) members

Registrar, Member (ex-officio)

Faculty Member (nominated by Director, IITV)

Two Students (Boy & Girl) Representatives (nominated by DAC)