



KERALA TECHNOLOGICAL UNIVERSITY
CET Campus, Thiruvananthapuram, Kerala -695 016

ORDINANCE

For

Master of Technology - M.Tech.

In exercise of the Powers conferred under Clause 44 of the Ordinance, the Executive Committee of the University hereby promulgate the Ordinance for the University for the Academic Year 2015-2016.

The Academic ordinance will come into effect from the date of publication in the Gazette.

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O-1 Admission to the M. Tech. Programme

Candidates who have been awarded or qualified for the award of the Bachelor's degree in Engineering / Technology, from an Institution approved by AICTE are eligible for admission to the M. Tech., Programme. Eligibility of candidates having MCA/MSc qualifications will be decided from time to time by following the guidelines issued by All India Council for Technical Education (AICTE) and the Government of Kerala and notified separately. Other important eligibility criteria are as listed out by the Director of Technical Education with the approval of the Government of Kerala.

O-1.1 Candidates qualified in Graduate Aptitude Test in Engineering (GATE) and admitted to the M. Tech. programme are eligible to receive Half Time Teaching Assistantship (HTTA) as per the rules of the All India Council for Technical Education (AICTE)/Ministry of Human Resource Development (MHRD).

O-1.2 Sponsored candidates from Industries, R&D organizations, National Laboratories as well as Educational Institutions, with a bachelor's degree in engineering are eligible for admission to the M. Tech. programme.

O-1.3 Foreign nationals whose applications are received through Indian Council of Cultural Relations, Government of India are also eligible for admission to the M. Tech. programme.

O-1.4 Announcements for M. Tech. Programmes will be made by the DTE, Government of Kerala.

O-1.5 Selection of candidates for the M. Tech programme will be done centrally or monitored by the Directorate of Technical Education as per the guidelines given on this by the Government of Kerala

- O-1.6 The number of candidates to be admitted to each M. Tech stream will be as per the approval of the University which shall be based on decision on this given by the All India Council for Technical Education.
- O-1.7 Admission will be complete only on meeting all the other requirements mentioned in the letter of admission and on payment of the fees.
- O-1.8 Candidates who have the Associate Membership of Professional Bodies that are approved by the University and have qualified in GATE shall also be eligible for admission to the M. Tech. programme.
- O-1.9 The reservation policy of the Government of Kerala and the Government of India shall be followed in admission to the M. Tech. programme.
- O-1.10 All admission will be governed by the procedure laid down for this by the Director of Technical Education, Kerala and the Government of Kerala.
- O-1.11 Notwithstanding all that is stated above, the admission policy may be modified from time to time by the University, particularly to conform to directions from the Government of Kerala and the Government of India.

O-2 Duration of the Programme

The normal duration of the M. Tech programme, including the project work, shall be four semesters.

O-3 Post Graduate Programme Clusters

The University shall identify clusters of colleges offering M. Tech programmes in different streams and allow them to formulate procedures for the smooth conduct of all academic activities associated with the M. Tech programme, in line with the ordinances/regulations of the University. These clusters shall have academic autonomy, regulated by a Cluster level Graduate Committee [CGPC] consisting of all the principals of the colleges in the cluster. The Chairman of CGPC shall be an eminent academician nominated by the Vice Chancellor. The CGPC will be responsible for all academic matters including the curriculum, syllabi, course plans, internal evaluations, end semester examinations, and grading for all streams of M. Tech. programme offered by the colleges in the cluster. The CGPC can formulate additional rules for other academic aspects that are not covered by this Ordinance.

O-4 Specialization Streams in M. Tech., Programme

The M. Tech. programme streams offered by each cluster as well as the eligibility of candidates of different B. Tech. branches or having other qualifications, for each of them shall be approved by the CGPC.

O-5 M. Tech. Programme Structure

- i) The M. Tech programme in all streams of specialization will be structured on a credit based system following the semester pattern with continuous evaluation.
- ii) The University permits regular as well as external registration (part time) for those in employment.
- iii) The duration for the M. Tech. programme in all streams of specialization will normally be 4 semesters. The maximum duration is 6 semesters.
- iv) For students admitted on external registration, the normal duration will be 6 semesters. Here the maximum duration is 7 semesters.
- v) The University permits a regular student to change over to external registration during the programme, under specific circumstances like initiating a start up venture or to take up a job.
- vi) Each semester shall have a minimum of 72 instruction days followed by the end semester examination.
- vii) A common course structure for the M. Tech programmes in all streams of specialization is to be followed and consists of the following.
 - Core Courses
 - Elective Courses
 - Laboratory Courses
 - Seminar
 - Project
- viii) Every stream of specialisation in the M. Tech. programme will have a curriculum and syllabi for the courses. The curriculum should be so drawn up that the minimum number of credits for successful completion of the M. Tech. programme in any stream of specialization is not less than 64 and not more than 68.
- ix) Credits are assigned as follows, for one semester
 - 1 credit for each lecture hour per week
 - 1 credit for each tutorial hour per week
 - 1 credit for each laboratory/ practical of 2 or 3 hours per week
 - 2 credits for the seminar
 - 2 credits for Mini Project
 - 6 credits for Project in the 3rd Semester
 - 12 credits for Project in the 4th Semester
- x) A pass is mandatory in all core courses. In case of failure in an elective course, there is the provision to choose another elective listed in the curriculum.

xi) On their request, CGPC shall examine the academic records and permit candidates with B. Tech (Honours) who have earned credits for any relevant graduate level courses to transfer credits towards the M. Tech. programme. Candidates who received B. Tech (Honours) degree just prior to their M. Tech admission are permitted to transfer up to 9 credits. For those who received the B. Tech (Honours) degree within three years prior to their M. Tech. admission are permitted to transfer up to 6 credits.

Xii) The maximum number of lecture based courses and laboratory courses in any semester shall not exceed 5 and 2 respectively. The maximum credits in a semester shall be 23.

Xiii) Extension of Programme duration

The normal duration of the programme shall be four semesters.

In case of prolonged illness or other personal exigencies, the university may allow a student who has earned credits for at least one semester, to extend the programme up to the maximum duration of six semesters.

Students who have earned credits for the courses listed in the first two semesters are permitted to transfer their registration as external candidates if they take up a job. However, they have to complete the programme within six semesters.

O-6. Course Registration and Enrolment

All students have to register for the courses they desire to attend in a semester. Students admitted to the first semester are advised to register for all courses offered in the first semester. They do not have to enrol for the semester. All other students are required to register at the end of the semester for the courses they desire to take in the next semester. Later they have to enrol for these courses in the new semester based on the results in the previous semester. This allows them to make minor changes in the list of courses already registered for. Before enrolment, students should clear all dues including any fees to be paid and should not have any disciplinary proceedings pending. The dates for registration and enrolment will be given in the academic calendar. Any late registration or enrolment, allowed only up to 7 working days from the commencement of the semester, will attract a late fee.

A student can drop a course or substitute one already registered for by another, for valid reasons with the approval of the faculty advisor. However this has to be done within 7 working days from the commencement of the semester.

The maximum number of credits a student can register for in a semester is limited to 24.

O-7 Recommended Credit distribution over the semesters

First Semester	: 20 to 23 credits
Second Semester	: 18 to 19 credits
Third Semester	: 14 credits

O-8. Academic Assessment/Evaluation

The University follows a continuous academic evaluation procedure.

The Assessment procedure and corresponding weights recommended are as follows:-

For theory courses

- i) Two internal tests, each having 15%
- ii) Tutorials/Assignments/ Mini projects having 10%
- iii) End Semester examination having 60%

All the above are mandatory requirements to earn credits.

Students who have missed either the first or the second test can register with the consent of the faculty member and the Head of the Department concerned for a re-test which shall be conducted soon after the completion of the second test and before the end semester examination. The re-test will cover both the first and the second test course plans. If a student misses both the scheduled tests, there is no provision for any retests and zero marks will be given for each test. In case of serious illness and where the attendance is above 70% the Principal may permit the conduct of the tests for a student based on his application and other relevant medical reports. Such cases are to be reported to CGPC.

For Laboratory /Practical courses

- i) Practical Records /outputs 40%
- ii) Regular Class Viva-Voce 20%
- iii) Final Test (Objective) 40%

O-9. Course Completion and earning of credits

Students registered and later enrolled for a course have to attend the course regularly and meet the attendance rules of the University and appear for all internal evaluation procedures for the completion of the course. However, earning of credits is only on completion of the end semester/supplementary examination and on getting a pass grade. Students, who had completed a course but could not write the end semester/supplementary examination for genuine health reasons or personal exigencies, if otherwise eligible are permitted to write the semester examination, at the next opportunity and earn credits without undergoing the course again. Failed candidates having more than 45% marks in their internals can also avail of this option. However, those who are not eligible to appear for the end semester examination have to register and undergo the course again, whenever it is offered, to earn the credits.

O-10. End Semester and Supplementary Examinations

At the end of the semester, the end semester examination will be conducted in all courses offered in the semester and will be of three hours duration unless otherwise specified. Supplementary examinations are to be conducted for eligible candidates registered for them, before the commencement of the next semester.

O-10.1 Eligibility to write the End Semester Examination and Grading

Eligibility criteria to appear for the semester examination are the attendance requirements in the course, 45% or more marks in the internal evaluation and having no pending disciplinary action. The minimum attendance for appearing for the semester examination is 85% in the course. In case of serious illness there is a relaxation for attendance [O-14.xvi]. Those who do not meet the eligibility criteria shall be awarded an FE Grade and have to register again for the course.

A student should have a minimum of 45% marks in the end semester examination to be eligible for grading in a course. Otherwise he/she will be considered to have failed in the course and an F grade will be awarded.

O-10.2 Eligibility to write the Supplementary Examination

Only failed students and those who could not write the semester examination due to health reasons or other personal exigencies that are approved by the Principal can register for the supplementary examination provided they meet the eligibility requirements given in O-10.1. Grades awarded in the supplementary examination will be taken as the semester grades in these courses.

O-11. Conduct of End Semester Examination

The Clusters will prepare the question papers, conduct the end semester examinations, organize the valuation of the answer scripts, finalise the results and submit it to the University, as per the academic calendar.

O-12. Award of M. Tech., Degree

The award of the M. Tech. Degree shall be in accordance with the Ordinances and Procedures given by the University.

A student will be eligible for the award of M. Tech. Degree of the University on meeting the following requirements;

- i) Registered and earned the minimum credits, as prescribed in the curriculum, for the stream of specialization.
- ii) No pending disciplinary action.

O-13. Amendments to Ordinance:

Notwithstanding all that has been stated above, the University has the right to modify any of the above provisions of the ordinance from time to time.

O- 14. Miscellaneous provisions:

- i) Stream of Specialization:

The streams of specializations are to be in line with the approval given on this by the All India Council for Technical Education.

ii) Language of Instruction

Unless otherwise stated, the language of instruction shall be English.

iii) Academic Calendar

The University shall publish in its website the academic calendar for every academic semester indicating the date of commencement of the semester as well as instruction. It will specify the course registration and enrolment dates, the schedule for mandatory internal tests for theory courses, dates by which laboratory/practical evaluations are to be completed, date for finalization of internal marks, last instruction day in the semester, planned schedule of end semester examinations and result declaration as well as approved holidays falling within the semester. Schedules for the supplementary examinations and result declaration dates are to be included in the calendar. Additionally colleges may publish their academic calendar, in line with the University academic calendar, indicating other schedules and events they plan to conduct during the semester.

iv) Eligibility to continue with the programme

A student has to earn a minimum number of credits in a semester to register for higher semester courses. This should be at least $2/3^{\text{rd}}$ of the credits for the courses listed in for the semester. CGPC shall formulate the rules based on this and spell out the procedure to proceed with the programme.

Failed students who have more than 45% marks in the internal course evaluation are permitted to write the semester examination without registering and undergoing the course. Those with less than 45% in internal course evaluation have to register again for the course, attend the classes and earn the credits.

v) Seminar

Students have to register for the seminar and select a topic in consultation with any faculty member offering courses for the programme. A detailed write-up on the topic of the seminar is to be prepared in the prescribed format given by the Department. The seminar shall be of 30 minutes duration and a committee with the Head of the department as the chairman and two faculty members from the department as members shall evaluate the seminar based on the report and coverage of the topic, presentation and ability to answer the questions put forward by the committee.

Suggested evaluation procedure:-

Faculty member in charge of the seminar and another faculty member in the department nominated by the Head of the Department are the evaluators for the seminar. Distribution of marks for the seminar is as follows.

Marks for the report: 30%

Presentation: 40%

Ability to answer questions on the topic: 30%

vi) Project work

Project work is spread over the third and fourth semesters. Project work is to be evaluated both in the third and the fourth semesters. Based on these evaluations the grade is finalised only in the fourth semester.

Project evaluation weights shall be as follows:-
For convenience the marks are allotted as follows.

Total marks for the Project: 150

In the 3rd Semester:- Marks:50

Project Progress evaluation details:

Progress evaluation by the Project Supervisor	: 20 Marks
Presentation and evaluation by the committee	: 30 Marks

In the 4th Semester:- Marks:100

Project evaluation by the supervisor/s	: 30 Marks
Presentation & evaluation by the Committee	: 40 Marks
Evaluation by the External expert	: 30 Marks

vii) Faculty Advisor, Class Committee

a) Faculty Advisor

The Head of the Department offering the M. Tech. programme shall nominate senior faculty members as faculty advisors who shall advise the students in academic matters and support them in their studies. Their role is to help the students in academics and personal difficulties related to studies. A faculty advisor may support a group of students in a semester.

b) Class Committees are to be in place for all M. Tech. programs in the college.

Class Committee

All M. Tech streams of specialization will have class committees for each semester, constituted by the respective Heads of Departments.

The Chairman of the committee shall be a senior faculty member who does not offer any course for that stream in that semester.

Members:-

- i) All faculty members teaching courses for the stream in that semester.
- ii) Two student representatives nominated by the Head of the Department, from the stream.

Class committees shall meet at least thrice in a semester - one in the beginning and one around the middle of the semester and one at least two weeks before the semester examinations. These committees should monitor the conduct of the courses, adherence to the course plan and time schedule, completion of the

syllabus, standards of internal tests and evaluation process and address the difficulties faced by the students and take suitable remedial actions at the appropriate time. Before the end semester examination, the committee should meet without the student representatives and finalise the internal marks. A report on the student performance in each course should be prepared and submitted to the CGPC by the colleges.

viii) Award of Grades

Grading is based on the marks obtained by the student in a course. [O-14 ix]

The grade card will only show the grades against the courses the student has registered.

The semester grade card will show the grade for each registered course, Semester Grade Point Average (SGPA) for the semester as well as Cumulative Grade Point Average (CGPA).

ix) Grades and Grade Points

Grades and Grade Points as per UGC guidelines are to be followed by the University

Grades	Grade Point	% of Total Marks obtained in the course
O	10	90% and above
A ⁺	9	85% and above but less than 90%
A	8	80% and above but less than 85%
B ⁺	7	70% and above but less than 80%
B	6	60% and above but less than 70%
C	5	50% and above but less than 60%
P	4	45% and above but less than 50%
F	0	Less than 45%
FE	0	Failed due to eligibility criteria [O.10.1]
I		Course Incomplete

Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) are calculated based on the above grading norms and are explained at the end of this document.

x) Academic Auditing

The University shall have a detailed academic auditing procedure in place comprising of an internal academic auditing cell within the college and an external academic auditing for each college. The internal academic auditing cell in each college shall oversee and monitor all academic activities including all internal evaluations and semester examinations. This cell is to prepare academic audit statements for each semester at regular intervals of four weeks of instruction. These reports are to be presented to the external academic auditor appointed by

the University, who will use it as a reference for his independent auditing and for the final report to the University.

Academic auditing will cover:-

- i) Course delivery covering syllabus, adherence to course plan, quality of question papers for internal examinations, internal evaluation, laboratory experiments, practical assignments, mini projects, conduct of practical classes and their evaluation. Semester examination and academic performance of the students.
- ii) Co-curricular and Extra-curricular activities available for students, and their organization.
- iii) Academic functioning of the college encompassing students, faculty and college administration covering punctuality, attendance, discipline, academic environment, academic accountability, academic achievements and benchmarking.

xi) Revaluation and Grade improvement

There is no provision for revaluation of the semester answer books or for improving the grade.

Students are permitted to check the answer books of the semester examination, after the results are declared. Any discrepancies in evaluation could be brought to the notice of the teacher concerned who will initiate appropriate action on this and report to the CGPC for a final decision on this.

xii) Grade Cards

Students who have written the semester examination will be given the grade cards for the registered courses, in every semester by the respective colleges. On earning the required credits for the degree, a consolidated grade sheet for the M. Tech programme will be issued by the University on the recommendation of the respective CGPC.

The M. Tech. degree will not have any classification like distinction or first class.

xiii) Academic Discipline and Malpractices in Examinations

Every student is required to observe discipline and decorous behaviour.

Any act of indiscipline, misbehaviour and unfair practice in examinations will be referred to the **Disciplinary Action Committee (DAC)**. Malpractices in examinations shall be viewed seriously and any such incident observed or reported by a faculty member or an invigilator associated with the examinations shall be reported to the Principle who in turn shall refer it to DAC. On the basis of the report and evidence available or gathered, DAC shall immediately initiate an enquiry giving the concerned student a chance to explain his/her case. Based on this the committee shall recommend the course of action in line with the guidelines formulated for this by the Controller of Examination of the University and forward it to the Principal for action.

Actions are to be based on the severity of the offence and are to be dealt with, on a course basis. Guidelines on this shall be given by the Controller of Examination which is to be followed by the Disciplinary Action Committee of the college.

DAC shall be headed by a department head and shall have three other faculty members drawn from different departments as members. In case of malpractices in end semester examinations, the report given by the college DAC and the action taken by the Principal shall be intimated to the Controller of Examination of the University

xiv) Student's Welfare Committee

Every college shall have a Student's Welfare Committee, constituted by the Principal of the college. This committee shall have at least three faculty members as members and the chairman shall be a senior faculty member in the rank of a Professor. This committee is entrusted with the task of looking after the welfare of the students by taking appropriate steps with the concurrence of the principal.

xv) Grievances and Appeals Committee

Each college should have a Grievances Redress Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. This committee consisting of at least three faculty members and chaired by a senior professor shall look into student's grievances and appeals and give its recommendations to the Principal for action.

xvi) Attendance

Attendance is marked for each course. 85% attendance is mandatory for writing the semester examination in a course. Students who get Part Time Teaching Assistantship (PTTA) or Scholarships from the Central or State Governments or any other agencies are expected to have 100 % attendance. However, under unavoidable circumstances students are permitted to take leave. Leave is normally sanctioned for any approved activity taken up by students outside the college covering sports and other extra-curricular activities. Leave is also permitted on medical grounds or on personal exigencies. Leave of absence for all these is limited to 15 % of the academic contact hours for the course.

In case of long illness or major personal tragedies/exigencies the Principal can relax the minimum attendance requirement to 70%, to write the semester examination. This is permitted for one or more courses registered in the semester. The Principal shall keep all records which led to his decision on attendance, for verification by the Academic Auditor. However this concession is applicable only to any one semester during the entire programme. In case of prolonged illness, break of study is permitted up to two semesters which could extend the programme up to six semesters, the maximum permitted by the regulations.

xvii) Leave of Absence

Students who desire to take leave have to apply for it to the teacher conducting the course. This application together with any supporting documents like doctor's certificate or other relevant information is to be forwarded to the Head of the Department with the recommendation of the teacher indicating the total leave of absence the student has so far availed. Approval for leave is to be given by the head of the department. After any prolonged medical leave, normally exceeding five instruction days, on rejoining, the student has to produce the fitness certificate given by the doctor.

xviii) Project Evaluation

Normally students are expected to do the project within the college. However they are permitted to do the project in an industry or in a government research institute under a qualified supervisor from that organization. Progress of the project work is to be evaluated at the end of the third semester. For this a committee headed by the head of the department with two other faculty members in the area of the project and the project supervisor/s. If the project is done outside the college, the external supervisor associated with the student shall also be a member of the committee.

Final evaluation of the project will be taken up only if the student has earned all course credits listed in the first three semesters. Project evaluation shall be done by the same committee mentioned above with an external expert, either from an academic/R&D organization or from Industry, as an additional member. Final project grading shall take into account the progress evaluation done in the third semester and the project evaluation in the fourth semester. If the quantum of work done by the candidate is found to be unsatisfactory, the committee may extend the duration of the project up to one more semester, giving reasons for this in writing to the student. Normally further extension will not be granted and there shall be no provision to register again for the project.

Xix) Project work outside the College

While students are expected to do their projects in their colleges, provision is available for them to do it outside the college either in an industry or in an institute of repute. This is only possible in the fourth semester and the topic of investigation should be in line with the project part planned in the 3rd semester. Student should apply for this through the project supervisor indicating the reason for this well in advance, preferably at the beginning of the 3rd semester. The application for this shall include the following:-

Topic of the Project:

Project work plan in the 3rd Semester:

Reason for doing the project outside:

Institution/Organization where the project is to be done:

External Supervisor – Name:
Designation:
Qualifications:
Experience:

Letter of consent of the External Supervisor as well as from the organization is to be obtained.

This application is to be vetted by the head of the department and based on the decision taken the student is permitted to do the project outside the college.

Ragging

Ragging of any nature is a criminal and non-bailable offence. Involvement in ragging shall lead to stringent punishment, including imprisonment as per the law of the land. A student, whose involvement in ragging is established, shall be summarily dismissed from the college. Each student of the Institute, along with his/her parent, is required to give an undertaking in this regard and the same is to be submitted at the time of registration.

Calculation of SGPA/CGPA

Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are calculated as follows.

$SGPA = \frac{\sum(C_i \times GP_i)}{\sum C_i}$ where C_i is the credit assigned for a course and GP_i is the grade point for that course. Summation is done for all courses registered by the student in the semester. Here the failed courses are also accounted.

$CGPA = \frac{\sum(C_i \times GP_i)}{\sum C_i}$ where C_i is the credit assigned for a course and GP_i is the grade point for that course. Summation is done for all courses registered by the student during all the semesters for which the CGPA is needed. Here the failed courses are also accounted. CGPA of all courses passed may also be given.

Thiruvanthapuram
26-6-2015

Registrar