

**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
(AUTONOMOUS)**

**(Approved by AICTE, Accredited by NBA,  
Affiliated to JNTUK, Kakinada and ISO 9001: 2008 Certified)**

**ACADEMIC REGULATIONS,  
COURSE STRUCTURE  
AND  
DETAILED SYLLABUS**



**2010 - 2011**

**M.TECH – COMPUTER SCIENCE AND ENGINEERING**

**DEPARTMENT OF COMPUTER SCIENCE AND  
ENGINEERING**

**L.B.Reddy Nagar, MYLAVARAM – 521 230  
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## **1. INTRODUCTION**

Academic Programmes of the institute are governed by rules and regulations as approved by the Academic Council, which is the highest Academic body of the Institute.

These academic rules and regulations are applicable to the students admitted during academic year 2010-11 into first year of two year Postgraduate programme offered by the college leading to Master of Technology (M.Tech) degree.

1.1 Lakireddy Balireddy College of Engineering, Mylavaram, an autonomous institution, follows Semester pattern for all two years of its Postgraduate M.Tech programme with internal and external evaluation.

1.2 Semester Pattern : Each academic year shall be divided into two semesters, each of 20 weeks duration, including instruction, evaluation, etc. Each semester consists of a minimum of 90 instruction days with at least 35 to 40 contact periods per week.

## **2. PROGRAMME OFFERED (POST GRADUATE)**

Master of Technology (M.Tech.)

## **3. ELIGIBILITY CRITERIA FOR ADMISSION**

The eligibility criteria for admission into First year M.Tech programme shall be as mentioned below:

- i. Admissions to the above program shall be made subject to the eligibility, qualifications and specialization prescribed by the AICTE from time to time.
- ii. Admissions shall be made on the basis of merit rank obtained by the qualifying candidate at GATE examination or an entrance test conducted by the university subject to reservations prescribed by the University/State government from time to time.

## **4. AWARD OF M.Tech DEGREE**

A student will be declared eligible for the award of the M.Tech Degree if he/she fulfills the following academic regulations:

- i. Pursued a course of study for not less than two academic years and not more than four academic years.
- ii. The student has to fulfill all the academic requirements i.e. Registered for 88 credits and has to secure all the 88 credits with minimum grade points.

## 5. DURATION OF THE PROGRAMME

Students, who fail to fulfill all the academic requirements for the award of the degree within four academic years from the year of their admission, shall forfeit their seat in M.Tech course.

## 6. SEMESTER –WISE DISTRIBUTION OF CREDITS:

Year	First Semester Credits	Second Semester Credits	Total Credits
First Year	30(28+ Mini Project @ 2 Credits)	30(28+ Term Paper @ 2 Credits)	60
Second Year	Dissertation Work – 20 Technical seminar-8		28
<b>TOTAL</b>			<b>88</b>

**Table .1 Semester wise Credits Distribution**

## 7. DISTRIBUTION AND WEIGHTAGE OF MARKS:

- i) In I-Semester and II- Semesters, the course of study consists of 6 theory subjects + 2 laboratories or 6 theory subjects + 1 Laboratory. However, the final year will be on dissertation work and Technical seminar only.
- ii) The performance of a student in each semester shall be evaluated subject wise with a maximum of 100 marks for theory and 100 marks for Laboratory Courses. In addition, Mini project, Technical seminar, and dissertation work shall be evaluated for 50, 50 and 200 marks respectively.
- iii) For theory subjects the distribution shall be 40 marks (35 for Test and 5 for attendance) for Internal Examinations and 60 marks for the End Semester Examination.
- iv) For theory subjects, during the semester there shall be two internal mid term examinations, for duration of 90 minutes. First internal mid term examination to be conducted in first and second units and the second internal mid term examination to be conducted in third, fourth and fifth units of each subject. However, 75% weightage for the best and 25% for the other internal mid term examination shall be considered for awarding internal marks.
- v) The internal mid term examination question paper should be for 35 marks. Out of five questions given, student has to answer any three questions.
- vi) For Laboratory courses, there shall be a continuous evaluation during the semester for 40 sessional marks and 60 end semester examination marks. Of the 40 marks for internal, 15 marks shall be awarded for day-to-day work and 15 marks to be

awarded by conducting Internal laboratory test and 5 marks for record work and 5 marks for attendance. The end semester examination shall be conducted by an external examiner and the concerned internal examiner.

vii) Mini project shall be submitted in report form and should be presented before the committee, which shall be evaluated for 50 marks. The committee consists of the Head of the department, the Supervisor of mini project and a senior faculty member of the department. There shall be no internal marks for mini project. The student has to secure minimum 50% marks to be declared successful.

viii) There shall be Technical seminar in second year. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding over the topic, and submit to the department, which shall be evaluated by the Department committee consisting of Head of the department, Seminar supervisor and a senior faculty member. The seminar shall be evaluated for 50 marks based on his/her presentation and the submitted report. There shall be no external examination for seminar. The student has to secure minimum 50% marks to be declared successful.

ix) **Dissertation Work:**

a. A Departmental Dissertation Review Committee (DDRC) shall be constituted with the Head of the Department as the chairman and two senior faculty as members to supervise the proceedings of the dissertation work from the time of allotment to submission.

b. Registration of Project work:

A student is permitted to register for the project work after satisfying the attendance requirement of all the courses (theory and practical courses) up to Second Semester. A candidate has to submit, in consultation with his/her dissertation supervisor, the title, objectives and plan of action of his/her dissertation work to the DDRC for its approval. Only after obtaining the approval of DDRC, the student can initiate the dissertation work.

c. The duration of the dissertation is for two semesters (Second Year).

d. Four copies of the dissertation report, certified by the supervisor shall be submitted to the Institute.

e. Out of a total 200 marks for the dissertation work, 50 marks shall be for Internal Evaluation and 150 marks for the End Semester Examination. The End Semester Examination (viva-voce or defence) shall be conducted by the committee consisting of an External Examiner, Head of the Department and the dissertation supervisor. External examiner will be selected by the

Principal/Director out of three member panel submitted by the Head of the Department, who are eminent in that field of study. For maximum of 18 students, one dissertation evaluation committee has to be formed.

- f. If the work is not satisfactory, and if the student is failed to secure the minimum (50% of total marks), the student shall revise and resubmit the dissertation report before three months. If he/she fails to get a satisfactory report again, the dissertation shall be summarily rejected.
- g. The topics for mini project and dissertation work shall be different from each other. The evaluation of dissertation work shall be conducted at the end of the Second year.
- h. The student has to clear all the subjects of M.Tech course to attend the Viva Voce or Defence of his / her Dissertation Work.
- i. The dissertation internal evaluation shall be on the basis of continuous review by the DDRC on the progress of the dissertation work.

#### 8. ATTENDANCE REGULATIONS & CONDONATION:

- i. A student shall be eligible to appear for end semester examinations, if acquired a minimum of 75% of attendance in aggregate of all the subjects.
- ii. Condonation of shortage of attendance in aggregate up to 10% on medical grounds (65% and above and below 75%) in each semester may be granted by the College Academic Committee(CAC). However, the subject of granting is purely at the discretion of the College Academic Committee or Competent Authority.
- iii. A Student will not be promoted to the next semester unless he/she satisfies the attendance requirement of the present semester as applicable. They may seek re-admission for that semester as and when offered next.
- iv. Due weightage in each of the subjects shall be given to the attendance. Marks not exceeding 5 shall be given to all such candidates who satisfy the following criteria

**Table .2 Marks weightage for Attendance**

Percentage of attendance	Marks
$\geq 90$	5
85 to $< 90$	4
80 to $< 85$	3
$>75$ to $< 80$	2
$=75$	1

- v. Shortage of Attendance below 65% in aggregate shall in no case be condoned.
- vi. Students whose shortage of attendance is not condoned in any semester are not eligible to take their end Semester examinations of that particular semester and their registration for examination shall stand cancelled.
- vii. A stipulated fee shall be payable towards condonation of shortage of attendance.
- viii. Attendance may also be condoned for those who participate in prestigious sports, co- and extra-curricular activities provided their attendance is in the minimum prescribed range for the purpose and recommended by the concerned authority.

#### **9. MINIMUM ACADEMIC REQUIREMENTS:**

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in Item No.8.

- i) A student shall be deemed to have secured the minimum academic requirement in a subject if he/she secures a minimum of 40% of marks exclusively in the end semester examination and a minimum aggregate of 50% of the total marks in the end semester examination and internal evaluation taken together.
- ii) A student will be promoted to second year, if he/she secures the minimum attendance requirement.

Students who fail to earn 88 credits as indicated in the course within four academic years from the year of their admission shall forfeit their seat in M.Tech course and their admission shall stand cancelled.

#### **10. COURSE PATTERN:**

The entire course of study is of two academic years. Each academic year shall have two semesters.

A Student eligible to appear for the end examination in a subject, but absent at it or has failed in the end examination may appear for that subject only as and when it is conducted.

All admitted students are to study 4 electives during their course of two year study at the institute. The following shall be the programme of study of electives.

Year	Semester	No. of electives
1	1	2
1	2	2

Final year (Two semesters) is completely reserved for Dissertation work and Technical seminar.

When a student is detained due to shortage of attendance/any other reason, he may be re-admitted when the semester is offered after fulfillment of academic regulations. Whereas, the academic regulations hold good with the regulations he/she first admitted.

#### 11. AWARD OF GRADE:

After a student has satisfied the requirement prescribed for the completion of the programme and is eligible for the award of M.TECH Degree he/she shall be placed in one of the following four grades. The award of the degree is on a grade point of scale 4. The grade points are awarded as follows:

CGPA	Division of Pass
$\geq 3.0$	First Class With Distinction
$\geq 2.0$ and $< 3.0$	First division
$\geq 1.6$ and $< 2.0$	Pass division
$< 1.6$	Fail

Based on the performance of the candidate, The following shall be the criteria for the award of letter grades at the end of each semester in the subjects in which the candidate appeared for the examination

Percentage of Marks Scored	Grades	Grade Points
$\geq 90$	S	4.00
$\geq 85$ to $< 90$	A <sup>+</sup>	3.67
$\geq 80$ and $< 85$	A	3.33
$\geq 75$ and $< 80$	B <sup>+</sup>	3.00
$\geq 70$ and $< 75$	B	2.67
$\geq 65$ and $< 70$	C <sup>+</sup>	2.33
$\geq 60$ and $< 65$	C	2.00
$\geq 55$ and $< 60$	D	1.67
$\geq 50$ and $< 55$	E	1.33
$< 50$	F	0

**Table .3. Marks, Grades and Grade Points**



### 11.1 Calculation of Semester Grade Points Average (SGPA)

The performance of each student at the end of the each semester is indicated in terms of GPA. The \*SGPA is calculated as below:

$$SGPA = \frac{\sum(CR \times GP)}{\sum CR}$$

Where CR= Credits of a course

GP = Grade points awarded for a course

\* SGPA (Semester Grade Point Average) is calculated for the candidates who passed all the courses in that semester.

### 11.2 Calculation of Cumulative Grade Point Average (CGPA) for Entire Programme.

The CGPA is calculated as below:

$$CGPA = \frac{\sum(CR \times GP)}{\sum CR}$$

(for entire programme)

Where CR= Credits of a course

GP = Grade points awarded for a course

## 12. MINIMUM INSTRUCTION DAYS:

The minimum instruction for each semester shall be 90 instruction days excluding examination days.

## 13. GENERAL:

- a. Where the words "he" "him" "his", occur in the regulations, they include "she", "her", "hers".
- b. The academic regulations should be read as a whole for the purpose of any interpretation.
- c. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Director is final.
- d. The Institute may change or amend the academic regulations or syllabi at any time and the changes or amendments made shall be applicable to all the students with effect from the dates notified.

## 14. TRANSITORY REGULATIONS

14.1 A candidate, who is detained or discontinued in the year/semester, on readmission shall be required to do all the courses in the curriculum prescribed for such batch of students in which the student joins subsequently. However, exemption will be given to those candidates who have already passed in such courses, which he/she had passed in the earlier semester(s) he/she was originally admitted into.

**14.2** A student who is following the JNTU, Kakinada curriculum, detained due to lack of academics/attendance at the end of a semester of an academic year, shall join with the autonomous batch at the appropriate semester. Such candidates shall be required to pass in all the courses in the programme prescribed by concerned BOS for such batch of students, to be eligible for the award of degree. However, exemption will be given to all those courses of the semester(s) of the batch, which the candidate joins now, which he/she had passed earlier. The student has to clear all his backlog subjects by appearing the supplementary examinations, conducted by JNTU, Kakinada and Autonomous stream for the award of Degree. The marks secured by the students in JNTUK-Kakinada pattern will be converted in to appropriate grade points as per the autonomous grading system and the class will be awarded based on the academic performance of a student in the entire 2 years as per the guidelines of autonomous Pattern.

**14.3** The concerned Board of Studies shall give the guidelines regarding 'Course Equivalence' and 'Course Exemptions' from time to time.

**15. COURSE CODE AND COURSE NUMBERING SCHEME:**

Course Numbers are denoted by 5 digit unique alpha numeric characters. First two digits are 'MT', that describes the Course name i.e. Master of Technology.

**Third digit** represents semester of offering as mentioned in Table No. 4.

THIRD DIGIT	DESCRIPTION
1	First Semester
2	Second Semester
3	Third Semester
4	Fourth Semester

**Table 4: Third digit description**

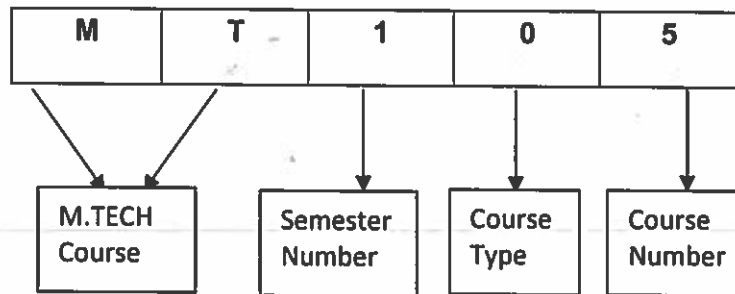
**Fourth digit** represents course type, as per Table No. 5

FOURTH DIGIT	DESCRIPTION
0	Theory course
5	Lab course/other than theory subject

**Table 5 : Course type description**

**Fifth digit** represents course number as described in Figure 1 below. However, different courses are given distinct codes.

For example, **MT105** course, the course is offered in the first semester (**1**), the course is of theory type (**0**) and the course number in that semester (**5**).



**Figure 1: Course code description for courses**

**16. MEDIUM OF INSTRUCTION**

The medium of instruction and examination is English.

**17. SYLLABUS (Enclosed at the end of this document)**

**18. AMENDMENTS TO REGULATIONS**

The Academic council from time to time may revise, amend, or change the regulations, schemes of examinations, and/or syllabi.

**19. GRADE CARD**

The grade card issued shall contain the following:

- a) The credits for each course offered for that semester
- b) The letter grade obtained in each course
- c) The SGPA/CGPA
- d) Total number of credits earned by the student up to the end of that semester

**20. CONDUCT AND DISCIPLINE**

- a) Students shall conduct themselves within and outside the premises of the Institute in a manner befitting the students of our Institution.
- b) As per the order of Honorable Supreme Court of India, ragging in any form is considered as a criminal offence and is banned. Any form of ragging will be severely dealt with.

- c) The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures with regard to ragging.
- i. Lack of courtesy and decorum; indecent behavior anywhere within or outside the campus.
  - ii. Willful damage or distribution of alcoholic drinks or any kind of narcotics to the fellow students/citizens.
- d) Possession, consumption or distribution of alcoholic drinks or any kind of narcotics or hallucinogenic drugs.
- e) Mutilation or unauthorized possession of library books.
- f) Noisy and unseemly behavior, disturbing studies of fellow students.
- g) Hacking in computer systems such as entering into other person's areas without prior permission, manipulation and/or damage of computer hardware and software or any other cyber crime etc.
- h) Usage of camera cell phones in the campus.
- i) Plagiarism of any nature.
- j) Any other act of gross indiscipline as decided by the academic council from time to time.
- k) Commensurate with the gravity of offense, the punishment may be reprimand, fine, expulsion from the institute / hostel, debarment from an examination, disallowing the use of certain facilities of the Institute, rustication for a specified period or even outright expulsion from the Institute, or even handing over the case to appropriate law enforcement authorities or the judiciary, as required by the circumstances.
- l) For an offence committed in (i) a hostel (ii) a department or in a class room and (iii) elsewhere, the chief Warden, the Head of the Department and the principal respectively, shall have the authority to reprimand or impose fine.
- m) Cases of adoption of unfair means and/or any malpractice in an examination shall be reported to the principal for taking appropriate action.
- n) All cases of serious offence, possibly requiring punishment other than reprimand, shall be reported to the Academic council.
- o) The Institute Level Standing Disciplinary Action Committee constituted by the academic council, shall be the authority to investigate the details of the offence, and recommend disciplinary action based on the nature and extent of the offence committed.
- p) The Principal shall deal with any academic problem, which is not covered under these rules and regulations, in consultation with the Programmes Committee in an appropriate manner, and subsequently such actions shall be placed before the

academic council for ratification. Any emergency modification of regulation, approved by the academic council earlier, shall be reported to the academic council for ratification.

- q) **“Grievance and Redressal Committee” (General)** constituted by the principal shall deal with all grievances pertaining to the academic/administrative /disciplinary matters.
- r) All the students must abide by the code and conduct rules of the college.

## **21. MALPRACTICES**

- a) The Principal shall refer the cases of malpractices in internal assessment tests and Semester-End Examinations, to a Malpractice Enquiry Committee, constituted by him/her for the purpose. Such committee shall follow the approved scales of punishment. The Principal shall take necessary action, against the erring students based on the recommendations of the committee.
- b) Any action on the part of candidate at an examination trying to get undue advantage in the performance at examinations or trying to help another, or derive the same through unfair means is punishable according to the provisions contained hereunder. The involvement of the Staff, who are in charge of conducting examinations, valuing examination papers and preparing/keeping records of documents relating to the examinations in such acts (inclusive of providing incorrect or misleading information) that infringe upon the course of natural justice to one and all concerned at the examination shall be viewed seriously and recommended for award of appropriate punishment after thorough enquiry.

## **22. AWARD OF RANK**

The rank shall be awarded based on the following:

- 22.1 Only such candidates who pass the Final year examination at the end of the third academic year after admission as regular final year students along with the others in their batch and become eligible for the award of the Degree shall be eligible for the award of rank. Candidates, who loose one or more years of study for any reason whatsoever are not eligible for the award of rank.

**22.2** Ranks shall be awarded in each branch of study for the top five students appearing for the Regular external Examinations.

**22.3** Award of prizes, scholarships, or any other Honors shall be based on the rank secured by a candidate, consistent with the desire of the Donor, wherever applicable.