

**ANIL NEERUKONDA
INSTITUTE OF TECHNOLOGY AND SCIENCES
(AUTONOMOUS)
ACCREDITED BY NBA & NAAC WITH 'A' GRADE**

Affiliated to Andhra University



Academic Regulations

**DEPARTMENT OF
ELECTRICAL & ELECTRONICS ENGINEERING**

ACADEMIC REGULATIONS FOR B.TECH PROGRAMME UNDER AUTONOMOUS STATUS

(W.E.F. THE ADMITTED BATCH OF 2015-16)

I. Admissions:

Admissions into first year of B.Tech.Programme and admissions into second year (lateral entry) of B.Tech.Programme of the Institute will be as per the norms stipulated by Andhra University & Andhra Pradesh State Council for Higher Education (APSCHE), Govt. of Andhra Pradesh. The academic regulations of Autonomous status mentioned herewith will be applicable from 2016-17 in case of Lateral Entry admissions.

II. Programmes Offered:

The following are the B.Tech. Programmes offered by the Institute.

- 1 Chemical Engineering
- 2 Civil Engineering
- 3 Computer Science & Engineering
- 4 Electrical & Electronics Engineering
- 5 Electronics & Communication Engineering
- 6 Information Technology
- 7 Mechanical Engineering

III. Structure of the B. Tech. Programme:

The programme consists of Humanities, Basic Sciences, Engineering Sciences and Technology. The complete programme is distributed over eight semesters with two semesters per academic year. Every branch of B.Tech programme will have a curriculum and syllabi for the courses recommended by the Board of Studies and approved by the Academic Council. The academic programmes of the Institute follow the credit system. The curriculum of B.Tech programme is designed to have a total of about 189 credits of which a student should acquire a minimum of 180 credits to get the degree awarded. If a student earns all the total credits, then the best 180 credits are considered to determine the final CGPA. The lateral entrants shall have a total of about 146 credits of which one should acquire a minimum of 137 credits to get the degree awarded. If a lateral student takes all the credits, then the best 137 credits are considered to determine the final CGPA.

Criteria for achieving the minimum credits:

Mandatory courses

All courses mentioned in the programme excluding open electives, professional electives and MOOCS come under mandatory courses.

Open Elective- A course offered by any department other than home department

The student has to choose one open elective out of the open electives offered by other departments during third year first semester or Final year first semester.

Professional Electives

The student has to register for at least (n-1) no. of professional electives (n = no. of professional electives offered by the department during the programme) as per his choice as provided in the curriculum. However, he can register for all the professional electives offered by the department.

MOOCs- Massive Open Online Courses

The student is required to register for one MOOCs course any time during second year first semester to fourth year second semester. However, its grade will be accorded at the end of fourth year second semester along with the fourth year second semester courses of the programme.

For the award of the degree, the student has to secure a minimum pass grade or above in all the mandatory courses, registered open elective, registered professional electives. However, the degree will still be awarded even if the student fails / opts out of MOOCs.

IV. Duration of the Programme:

The duration of the programme is four academic years consisting of two semesters in each academic year. A student is permitted to complete the programme in a stipulated time frame of 8 consecutive academic years from the date of initial admission. Students joining the programme in the 2nd year through lateral entry scheme shall have to complete the programme in a stipulated time frame of 6 consecutive academic years from the date of initial admission.

V. Medium of Instruction:

The medium of instruction and examination is English.

VI. Minimum Instruction Days:

Each semester normally consists of a minimum of 16 weeks of instruction.

VII. Academic Calendar:

The dates of all important events, such as commencement of class work, examinations, vacations, etc., during the academic year will be specified in the Academic Calendar of the Institute, as approved by the Academic Council.

VIII. Examinations & Evaluation Process:

The performance of a student in each semester shall be evaluated subject-wise with a maximum of 100 marks each for theory and practical/drawing subjects.

(A) Theory Course:

For all lecture based theory courses, the assessment shall be for 40 marks through internal evaluation and 60 marks through external semester-end examination of three hours duration except for the subjects with 100% internal assessment in which case an internal examination will be conducted for 60 marks along with the semester-end examinations.

i) Internal evaluation:

The sessional marks shall be awarded through internal evaluation by the teachers concerned based on the continuous assessment which includes class tests, quiz, viva-voce, assignments, student regularity, two mid-examinations etc., according to a scheme notified by the department at the beginning of the semester.

Out of the 40 internal evaluation marks, 20 marks are assigned for 2 internal-mid exams, 10 marks for assignments, 5 marks for projects/ case studies /quiz/tests and 5 marks for attendance. The average of 2 internal-mid exams is considered for the 20 marks allocated.

Under any circumstances, no re-examination shall be conducted for the internal mid examinations.

ii) External evaluation:

The question paper shall be set externally and the answer scripts are valued through a double valuation system.

The average of the two valuations will be taken for the award of marks. In case, the difference of the marks obtained in the two valuations is more than 20%, then a third examiner shall value the script. Out of the three valuations, the average of marks obtained in third valuation and the marks obtained nearer to third valuation out of first two valuations shall be considered. No revaluation for any subject/course shall be entertained as already double valuation system is in existence. However, recounting is allowed on the request of the candidate on payment of specified fee. Challenge valuation shall also be entertained on payment of specified fee.

(B) Laboratory Course:

Each student will perform about 10 to 12 experiments in each laboratory course. Laboratory course will be evaluated for 100 marks, out of which 50 marks are for external examination and 50 marks are for internal evaluation. The internal marks are awarded based on continuous assessment, record work, internal lab examination and student regularity. The external examination will be conducted by two examiners, one of them being laboratory class teacher as internal examiner (nominated by the Principal on recommendation of HOD) and an external examiner nominated by the Principal from the panel of experts recommended by the HOD.

A candidate shall be declared to have passed any theory subject/course if he secures not less than 40% in external theory examination and also a minimum of 40% of total marks of that course which assures a minimum of 'P' grade.

A candidate shall be declared to have passed any practical course if he secures not less than 50% in external laboratory examination and also a minimum of 50% of total marks of that course which assures a minimum of 'C' grade.

Only in the case of quantitative and verbal aptitude – I & II, if a candidate fails he is given an opportunity to improve to pass grade (P) irrespective of the score he gets over and above pass mark in the reexamination within one month on payment of special examination fee.

Any student appearing for the semester-end practical examination is eligible only if he submits the bonafide record certified by the laboratory class teacher and the HOD.

(C) Project Work:

The project work is evaluated for 300 marks out of which 100 through internal assessment in the IV Year I semester through continuous assessment followed by final evaluation by a committee nominated by the HOD. For the 200 marks in IV year II semester, assessment is done for 100 marks internally and for the remaining 100 marks by the committee consisting of at least one external expert nominated by the Principal. If a student fails in the fourth year first semester project he has to appear for reassessment within one month for which he has to pay the reexamination fee.

(D) Industrial Training:

The industrial training is assessed internally for 100 marks by an internal evaluation committee constituted by the HOD.

(E) Supplementary Exam:

There will be supplementary examination for the programme such that for odd semester courses the supplementary exams will be conducted during summer vacation and for the even semester courses, the supplementary exams will be conducted during the winter vacation.

IX. Attendance Regulations:

Attendance of a student is computed by considering total number of periods conducted in all courses as the denominator and the total number of periods actually attended by the student in all courses, as the numerator. It is desirable for a student to put in 100% attendance in all the subjects. However, a candidate shall be permitted to appear for the semester end examination provided he maintains a minimum of 75% overall attendance in the semester.

The shortage of attendance on medical grounds can be condoned up to a maximum of 9% provided the student puts in at least 66% attendance and provided the Principal is satisfied with the genuineness of the reasons. The Medical Certificates are to be submitted to the Head of the Department when the candidate reports to the classes immediately after the absence. Certificates submitted afterwards shall not be entertained. Condonation fee as fixed by the college for those who put in attendance between $\geq 66\%$ and $<75\%$ shall be charged before the semester-end examinations.

In the case of students who participate in co-curricular, extra-curricular activities like student seminars, N.S.S, N.C.C, Inter-collegiate tournaments and any such other activities involving the representation of the Institute, with the prior approval of the Principal, the candidate may be deemed to have attended the classes during the actual period of such activity, solely for the purpose of attendance.

A student, who could not satisfy the minimum attendance requirement of 66% in any semester, shall be declared 'Detained'. He is not eligible to appear for the semester end examinations. He will not be promoted to the next semester and shall have to repeat that semester with the next batch(es) of students. Such students who are detained and seek readmission, should submit an undertaking/a declaration that they will abide by the regulations existing at the time of readmission.

X. Minimum Academic Requirements:

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item No. IX.

A student shall be deemed to have satisfied the minimum academic requirements and earned the credits allotted to each theory subject if only he secures not less than 40% marks in the semester-end examination and a minimum of 40% marks in the sum of the internal evaluation and semester-end examination taken together. In the labs/projects, the student should secure a minimum of 50% marks in the external examination and a minimum of 50% marks in the sum of internal evaluation and external examination evaluation taken together.

Further, a candidate has to secure a minimum of 40 % in theory examination (excluding sessional marks) and a minimum of 50 % (excluding sessional marks) in the Practical Examination / Project / Field Work / Viva Voce / Industrial Training in Semester –End / Year – End Examination and 50% aggregate to pass.

A student will be promoted to the next semester, if only he satisfies the minimum attendance requirement.

A student shall be promoted from II Year to III Year only if he fulfills the academic requirement of total 50 % of all credits from regular and supplementary examinations of I Year and II Year – I Semester { i.e., total 3 semesters} examinations, irrespective of whether the candidate takes the examination in all the subjects or not.

A student shall be promoted from III Year to IV Year only if he fulfills the academic requirements of total 50% of credits from regular and supplementary examinations of I Year, II Year and III Year- I Semester {i.e., total 5 semesters}, irrespective of whether the candidate takes the examinations in all the subjects or not.

For lateral entry students, there is no credit based restriction for promotion from II year to III year. But a lateral entry student shall be promoted from III year to IV year only if he fulfills the academic requirements of total 50% of credits from regular and supplementary examinations of II year and III year- I Semester {i.e., total 3 semesters} irrespective of whether the candidate takes the examinations in all the subjects or not.

Students, who fail to complete their B.Tech. Programme within eight academic years from the year of their admission or fail to acquire the credits stipulated for the programme shall forfeit their seat in B.Tech. Programme and their admission shall stand cancelled. For lateral entry students they have to complete the programme in six years from their year of admission.

A candidate can avail the betterment chances during the validity of all courses.

XI. Award of Grades:

The absolute grading system is adopted as follows:

S.No	Range of marks %	Grade	Grade Points	
1	> 90 ≤ 100	O	10	Out Standing
2	> 80 ≤ 90	A+	9	Excellent
3	> 70 ≤ 80	A	8	Very Good
4	> 60 ≤ 70	B+	7	Good
5	> 55 ≤ 60	B	6	Above Average
6	≥ 50 ≤ 55	C	5	Average
7	≥ 40 < 50	P	4	Pass
8	< 40	F	0	Fail
9			0	Ab (Absent)

Note: Minimum grade to pass in a laboratory course is 'C'.

The performance of a student at the end of the each semester is indicated in terms of Semester Grade Point Average (SGPA). The SGPA is calculated as below:

$$\text{SGPA} = \frac{\sum (\text{Credits of a course} \times \text{Grade points awarded for a course})}{\sum (\text{Credits of a course})}$$

SGPA is calculated for the candidates who have passed in all the courses in that semester.

Cumulative Grade Point Average (CGPA) will be calculated from II semester onwards up to the final semester and its calculation is similar to that of SGPA, considering all the courses offered from the first semester onwards.

CGPA is calculated for those who clear all the courses in all the previous semesters.

XII. Award of Class:

For award of class, a total of best 180 credits are considered in case of four year programme and best 137 credits in case of lateral entry admitted students. A candidate, who becomes eligible for the award of B.Tech.Degree, shall be placed in one of the following classes.

S.No.	Class	CGPA
1	First Class with Distinction	7.0 or more*
2	First Class	6.0 or more but less than 7.0
3	Second Class/Pass	5.0 or more but less than 6.0

***First class with Distinction will be awarded only to those students who clear all the subjects of the program in first attempt of regular examinations.**

The CGPA can be converted to aggregate percentage by multiplying CGPA with 10, in case of requirement by any other university or for any other purpose.

XIII. Eligibility for Award of B.Tech. Degree:

A student shall be eligible for the award of the B.Tech degree if he fulfills all the following conditions:

- 1) Registered and successfully completed all the components prescribed for eligibility in the Programme of study to which he/she is admitted within the stipulated period,
- 2) Obtained CGPA greater than or equal to 5.0 (Minimum requirement for Pass),
- 3) No disciplinary action is pending against him/her and
- 4) Has no dues to the Institute including hostels.

XIV. Malpractices:

The Controller of Examinations/Dean of Examinations shall refer the cases of suspected malpractices in mid examinations and semester-end examinations to Malpractice Enquiry Committee constituted by the Institute. 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.

XV. Amendments To Regulations:

The Institute may, from time to time, revise, amend, or change the Regulations, Schemes of Examinations, and / or Syllabi and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the Institute.

XVI. General:

- (i) **Where the words 'he', 'him', 'his', occur in the regulations, they include 'she', 'her', 'hers'.**
- (ii) **The academic regulation should be read as a whole for the purpose of any interpretation.**
- (iii) **In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal is final.**