Koneru Lakshmaiah Education Foundation
(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)
Accredited by NAAC as "A++" ✧ Approved by AICTE ✧ ISO 9001-2015 Certified
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OFFICE OF DEAN ACADEMICS

Policy Document

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Title: Graduation Requirements (Engineering Departments)

Policy:

Graduation requirement ensures that the students undergo the right mix of courses in order to attain the outcomes destined for the respective degree program. Also, it supports holistic development of the students by shaping them in all aspects through a wide variety of courses including environment, ethics, gender, human values, sports, meditation, interdisciplinary, and multi-disciplinary courses.

Outcomes:

- Ensures holistic development of students.
- Enables the option to enter and exit the program multiple times.
- Prepares students with respect to local, regional, national and international requirements in order to grab better opportunities in their chosen career track.

Procedure:

- Departments are required to design the curriculum to fulfill the local, regional, national and global needs with respect to all the programs offered.

- Departments should design the courses and categorize them as per the guidelines given by AICTE/UGC or any other statutory authority.
- Courses and Value-added courses must align with career categories to ensure students benchmark themselves in the respective career categories leading to enhanced opportunities.
- Holistic Development under curriculum should be ensured to enable the students to develop as global citizens.
- Curriculum should ensure integration of courses enriching Vocational Skills.
- Students should be given the freedom to choose courses in the form of electives which lead to specialization, honors or minors.
- Open Electives should help the students to choose multi-disciplinary courses thereby expanding the scope of opportunities.

Sample Courses categorization and credit distribution in each category

Sl.	Course Category	Short Name	#Courses	As per AICTE Credits
1	Humanities & Social Sciences	HSS	9	12
2	Basic Sciences	BS	8	25
3	Engineering Sciences	ES	8	24
4	Professional Core	PC	16	48
5	Flexi Core	FC	0	0
6	Professional Electives	PE	5	18
7	Project Courses	PR	10	15
8	Open Electives	OE	5	18
Total			**61**	**160***

* Actual number of credits & distribution of the same may vary with each department as approved in their Board of Studies.

- Humanities and Social Sciences includes English courses covering listening, speaking, reading and writing (LSRW skills), verbal and reasoning, non-credited man mandatory courses like Gender sensitization, Universal human values, etc.
- Basic Sciences including mathematics, physics, chemistry, Quantative and aptitude courses.
- Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.
- Professional core including all the foundational courses of the program and professional elective courses relevant to chosen specialization/branch.
- Flexi core includes courses in addition to professional core that act as foundational level courses and adds background knowledge to take up any specialization track offered.
- Open electives from other technical and /or emerging subjects.
- Project Courses included project-based lab, Capstone Project/Project work, Internships which help the student to apply and design solutions for the identified problems in a specific domain or in their chosen specialization track.
    - Y20 and Y21-Engg. batches undergo three internships like Social, Technical and Industrial which help students to identify and design solutions for complex engineering problems.
    - Y19 Batch-Engg. curriculum supports Industrial Internship which provides a provision for students to collaborate with industry for a period of minimum 12 weeks. This helps them to get exposed to the global work environments. Along with Industrial Internship there is a provision to undergo Industrial Training in which students hone their technical skills in using them in the most appropriate way for solving a challenging problem.

As per Accreditation Board for Engineering and Technology- Engineering Accreditation Commission (ABET-EAC) requirement it is required to design curriculum as mentioned below:

- Minimum of **30 semester credit hours** (or equivalent) of mathematics and basic sciences with practical exposure relevant to the program.
- Minimum of **45 semester credit hours** (or equivalent) of engineering topics, computer sciences and engineering design principles, and utilizing modern engineering tools.
- A **culminating major engineering design experience** that incorporates appropriate engineering standards and is based on the knowledge and skills acquired in earlier course work.

Template of Degree requirements through which departments may propose in their BOS for approval.

Category	Department Name
Minimum Credits (Covering all Mandatory courses)	160
Professional Electives minimum Credits	5 Courses with a minimum of 15 credits
Open/Management/Foreign Language Electives minimum credits	5 Open Electives including management and foreign language electives for minimum of 15 Credits.
Certification Courses-Technical	3 (4 in the case of the CSE Department) (One must be a global certification course in discipline domain areas)
Certification Courses-Non-Technical	1
Minimum CGPA at the end of the Program.	5.25 (Y19, Y20, Y21), 4.5 (Y22)

Honors Degree Requirement	• Degrees with honors can be awarded to students who have attained an additional 20 credits over and above the regular courses in the form of taking either Core and Professional electives in advanced mode (with extra credits for additional content and higher order evaluation) or by taking up a pool (relevant to program core or any specialization offered) of courses as approved in Board of studies through acceleration or by overloading in regular semester/summer term. • Students can accelerate or overload themselves by not exceeding 48 contact hours per week including the audit and certificate courses registered by the student. • Students should maintain a minimum CGPA of 8.5 or higher at the end of semester-2 and continue to maintain the same in the subsequent semesters, without any outstanding backlogs or attempting betterment/reregistration after registering for Honors degree. • In case a student fails to meet the CGPA requirement for Degree with Honors at any point after registration, s/he will be dropped from the list of students eligible for Degree with Honors and they will receive regular Degree only. However, the additional courses completed by them, and the due credits gained will be mentioned in their grade sheet. • Students are permitted to take up MOOCs/Online courses up to a maximum of 40% of overall courses offered by the program of study and the corresponding equivalence of Online courses should be proposed by the department and subsequently approved by the office of Dean Academics.

Degree with Specialization Requirement	• Degree with Specialization will be awarded to student if they complete minimum five professional elective courses from a single specialization track and acquire a minimum of 15 credits from the identified track. • Students should be sensitized on the tracks available in specialization, the list of subjects to choose from along with the scope and opportunities in each track. • The maximum limit on the number of students/sections to be offered will be decided by the departments based on the availability of faculty to deal with the courses being offered under the specialization track or based on the need of the industry as recommended by the department in the form of self-learning courses to a maximum of 20% of total credit requirement for the award of the specialization degree. • The students should do a minimum of two value added courses relevant to the specialization track at different levels towards a specific career category thereby enhancing the opportunities in the chosen specialization track. • It is required that the students maintain a minimum of 6.75 CGPA at the time of award of degree failing which the student will be issued a regular degree without any specialization. However, the subjects completed under specialization along with their credits will be mentioned in their grade sheet.

	• Students who are not interested in taking any specialization degree or do not have eligibility to get the same may select courses at random from across the specialization tracks offered by the department. • It is required to encourage students to choose domain-based specialization in domains like Healthcare, Water, Energy etc. In such cases students may do all five professional electives from the same specialization track to ensure sufficient technical expertise relevant to the domain and in addition to that student may take minimum of 3 courses from the same pool of minors which supports them to gain background knowledge on the chosen domain. • Students are required to design solutions for the problems identified in the chosen domain by taking up Inter disciplinary or multi-disciplinary projects.
Degree with Minors requirement	• Students fulfilling all the program requirements of their discipline and are successful in completing a specified set of courses from another discipline through which they earn an additional 20 credits are eligible to get minor degree in that discipline. • Students can accelerate or overload themselves by not exceeding 48 contact hours per week including the audit and certificate courses registered by the student. • Students should maintain a minimum CGPA of 6.75 or higher at the end of semester-2 and continue to maintain the same in the subsequent

	semesters, without any outstanding backlogs after registering into minors for getting minors degree awarded. • Due to unforeseen reasons students may drop at any point from minors degree and in such cases the courses completed by them under minors will be mentioned in their grade sheet. • Departments are required to identify and offer minor courses so that students who take up those courses will get the required knowledge to excel further in that discipline. • Departments may collect interest from students of other programs before they finalize the set of minors courses or disciplines and accordingly, they may float the minors courses or disciplines. The maximum limit on the number of students/sections to be offered will be decided by the departments based on the availability of faculty. • Students can do a maximum of 25% additional credits over and above the credit requirements for graduation. • Students are permitted to take up MOOCs/Online courses up to a maximum of 40% of overall courses offered by the program of study and the corresponding equivalence of Online courses should be proposed by the department and subsequently approved by the office of Dean Academics.

Not Fit for Technical Education / for the appropriate program of study:

- Students' academic performance is reviewed at regular intervals by the mentor allotted on 1:20 ratio across all the programs of study offered by the University.
- The mentor monitors the academic performance both in formative and summative assessments undergone by the student periodically and accordingly counsels the students on the areas of improvement and corrective actions to be taken.
- By the end of the first semester of study, if the student is found to be weak in any of the foundational courses related to their chosen program of study, the mentor is required to identify the relevant courses for the student and arrange for bridge courses or remedial classes to bridge the gap of outcome attainment.
- Throughout the second semester of study, the student is monitored on their performance with respect to their weak areas and how well the remedial or bridge courses or counseling sessions are contributing to the enhancement of their learning outcomes. By the end of their first year of study, if the student is still found to be not performing up to the mark with respect to the outcome attainment related to the courses which provides the background knowledge to the core courses of the program, they should be suggested by the faculty mentor and the department to undergo counseling from the Academic Counselling Board (ACB).
- This process is extended over the higher years of study until the student feels comfortable with the chosen program of study.
- However, students are required to complete the program/degree requirements by not exceeding the maximum time period of the program.

- Faculty mentor and ACB are equally responsible to give appropriate guidance periodically in either proceeding with either same program or choosing an alternative program of study as per the interest of the student.
- The ACB after due interaction with the student(s), once find that the student is Not Fit for the Program of study or Not fit for Technical Education (in case of engineering / technology education), recommends the corrective course of action in terms of suggesting alternative program of study for the students. In such cases, the courses undergone by the students will be considered equivalent for the program to which they are migrating subjected to the appropriateness of the same with the curricular requirements of the regulation of new program.
- Student who is identified to be Not fit for the program of study should be given the flexibility to quit from the program at any point of time and enroll for the same or another program afresh. In such cases, the credits earned and accumulated into ABC (Academic Bank of Credit) portal may fetch Certificate/Diploma/Degree/Honors certificates as per the Multi Entry – Multi Exit policy of NEP-2020. Students may exit the program and resume their study at any point of time by not exceeding the maximum duration of the program.
- Graduate requirements for lateral entry students can be considered from the second year of study for the remaining period. Moreover, departments need to identify and run additional courses for ensuring attainment of outcomes on courses which are of due importance (like Design Thinking and Innovation) and are offered in the first year of study.

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