CHRIST (Deemed to be University), Bangalore

School of Engineering and Technology

Department of Electrical and Electronics Engineering

Feedback Analysis and Curriculum Revision Suggestions — 2025-26

Programme: B.Tech — Electrical and Electronics Engineering (EEE)

Feedback Analysis Summary

The table below presents a consolidated overview of all stakeholder feedback collected for the academic year 2025-26. Feedback was gathered from students, faculty, alumni, academic experts, and industry representatives.

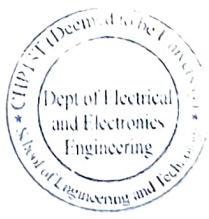
Stakeholder Group	No. of Respondents	Average Score (out of 5)	Response Rate
Students	20	4.05	High
Faculty	9	4.11	High
Alumni	14	3.84	Moderate-High
Academic Experts	Qualitative	—	Invited Inputs
Industry	Qualitative	—	Invited Inputs

Student Feedback

A total of 20 students from the B.Tech EEE programme participated in the feedback process, with an overall average score of 4.05 out of 5, reflecting a broadly positive assessment of the programme.

Key Observations

- Overall satisfaction with the curriculum is positive, though students seek greater depth in core electrical and electronics subjects.
- Pedagogy is appreciated, but students prefer more interactive, activity-based, and industry-oriented teaching methods.
- There is a strong demand for more hands-on lab sessions and real-world application-based learning.
- Students expressed the need for exposure to modern electronic tools, simulation software, and hardware platforms.
- Assessment patterns are perceived as repetitive; students prefer project-based and open-ended evaluations.



Suggestions from Students

- Introduce mini-projects and design challenges from the first year onwards.
- Provide greater access to simulation tools such as MATLAB, LTspice, and Multisim.
- Incorporate more electronics-focused practical sessions and real-time demonstrations.
- Reduce the share of purely theoretical assessments; include design reviews and presentations.
- Introduce elective options in power electronics, embedded systems, and IoT.

Faculty Feedback

Nine faculty members from the department provided feedback, yielding an average score of 4.11 out of 5. Faculty inputs reflect a high level of engagement and commitment to academic excellence, while identifying areas for pedagogical enhancement.

Key Observations

- The curriculum framework is sound but leans too heavily towards theory, limiting student practical competence.
- There is a need to revisit and reinforce foundational courses in circuit theory, electronics, and electromagnetic fields.
- Faculty noted scope for integrating blended learning, flipped classroom models, and collaborative projects.
- Industry alignment is recognised, but the curriculum requires periodic revision to keep pace with technology trends.
- Skill development activities are limited to core subjects and need wider integration across semesters.

Suggestions from Faculty

- Introduce structured problem-based learning (PBL) modules across electronics and power courses.
- Adopt blended learning approaches combining online resources with in-class activities.
- Revise the lab curriculum to include component-level troubleshooting, PCB design, and embedded programming exercises.
- Introduce modular elective courses on advanced electronics, power systems, and control engineering.
- Incorporate more skill-based assessments such as open-ended labs, design projects, and oral presentations.

Alumni Feedback

A total of 14 alumni contributed to the feedback process, with an average score of 3.84 out of 5. Alumni inputs draw on professional experience and provide a valuable perspective on curriculum relevance and employability.

Key Observations

- Alumni note that while core EEE concepts were well taught, their workplace roles demand stronger interdisciplinary and practical skills.
- Greater emphasis on electronics-based courses and embedded systems was highlighted as a gap.
- Alumni recommended inclusion of industry-standard tools and software that are actively used in the profession.
- Soft skills, logical reasoning, and the ability to work in cross-functional teams were cited as crucial for career readiness.
- Exposure to start-up culture, entrepreneurship, and product development was identified as a value-adding opportunity.

Suggestions from Alumni

- Strengthen core fundamentals including analog electronics, digital design, and control systems.
- Introduce industry-standard tools such as MATLAB, Cadence, Altium Designer, and LabVIEW.
- Promote interdisciplinary collaboration with Computer Science and Mechanical Engineering departments.
- Include modules on project management, technical communication, and entrepreneurship.
- Facilitate alumni mentorship programmes and industry immersion visits for current students.

Academic Expert Feedback

Academic experts from peer institutions and research organisations were invited to provide qualitative inputs on the curriculum. Their key recommendations centred on two principal themes: reinforcing fundamentals and strengthening electronics-based offerings.

Key Observations

- Experts stressed that a strong grounding in electrical and electronic fundamentals is non-negotiable for higher studies and advanced research.
- Courses on analog electronics, electromagnetic theory, digital signal processing, and control systems should be treated as core pillars of the programme.
- Emerging electronics sub-fields — such as VLSI design, embedded systems, power electronics, and RF engineering — were recommended as priority electives.
- There is a gap in research orientation; experts recommended introducing undergraduate research projects and literature review assignments from the second year.

Suggestions from Academic Experts

- Strengthen foundational courses in electromagnetic theory, network analysis, semiconductor physics, and signals & systems.
- Introduce dedicated electronics-based electives: VLSI Design, Analog IC Design, RF and Microwave Engineering.
- Encourage undergraduate research through structured literature surveys, minor research projects, and faculty-guided explorations.
- Align course outcomes with GATE and higher-studies syllabi to improve post-graduate readiness.

Industry Feedback

Industry partners from core EEE sectors, electronics manufacturing, embedded systems, and automation provided qualitative inputs. Their collective recommendations focused on practical readiness, logical capability, and cross-domain competence.

Key Observations

- Industry stakeholders unanimously stressed the criticality of hands-on training — graduates are expected to engage with hardware, instruments, and tools from day one.
- Logical reasoning, structured problem-solving, and debugging skills are cited as major differentiators during campus recruitment.
- An interdisciplinary approach that integrates EEE with software engineering, data analytics, and mechanical design is increasingly demanded.
- Knowledge of embedded C, microcontrollers, FPGA, and communication protocols is considered an essential baseline skill.

Suggestions from Industry

- Mandate hands-on lab exercises every semester that use real test equipment — oscilloscopes, multimeters, signal generators, and spectrum analysers.
- Introduce logical and analytical reasoning sessions as a compulsory component for all EEE students.
- Launch interdisciplinary elective tracks combining EEE with CS (AI/ML for EE), Mechanical (Mechatronics), and Management (Technology Management).
- Embed internship-linked credits and semester-end capstone projects with industry mentors.
- Provide certification pathways in embedded systems, power electronics, and industrial automation to enhance employability.

Key Curriculum Gaps Identified

Gap Area	Feedback Summary	Priority
Fundamental Concepts	Academic experts noted insufficient emphasis on core EE fundamentals—circuit theory, electromagnetism, and signals & systems.	High
Practical / Hands-On Training	Industry and students highlighted the need for more lab-based work, prototyping, and real-time hardware exposure.	High
Electronics-Based Courses	Academic experts stressed reinforcing analog/digital electronics, power electronics, and embedded system courses.	High

Logical & Analytical Skills	Industry feedback highlighted gaps in logical reasoning, problem-solving ability, and structured analytical thinking.	Medium-High
Interdisciplinary Approach	Alumni and industry emphasized integration of EEE with CS, Mechanical, and emerging fields like AI and IoT.	Medium

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Major Recommendations for Curriculum Revision

1. Reinforce Electrical and Electronics Fundamentals

- Dedicate additional contact hours to core subjects: Circuit Theory, Electromagnetic Fields, Analog & Digital Electronics, and Signals & Systems.
- Introduce tutorial sessions and problem-solving workshops to build conceptual depth.
- Align fundamental course outcomes with national competitive examinations (GATE) and industry entry standards.

2. Strengthen Electronics-Based Courses

- Introduce new electives: VLSI Design, Advanced Analog Electronics, Power Electronics Design, Embedded Systems with RTOS.
- Revise existing electronics lab curriculum to include PCB design, component-level testing, and microcontroller-based experiments.
- Provide access to industry-standard simulation and design tools: LTspice, Cadence, Altium Designer, MATLAB/Simulink.

3. Enhance Practical and Hands-On Training

- Mandatory hands-on component every semester: hardware prototyping, lab experiments, and mini design challenges.
- Introduce real equipment usage — oscilloscopes, DSOs, signal generators, power supplies — as part of every lab module.
- Partner with industry for equipment donation, lab upgrades, and visiting demonstration sessions.

4. Develop Logical and Analytical Skills

- Introduce an Analytical Reasoning and Problem-Solving elective in Semester 1.
- Embed problem-based learning (PBL) methodology in at least two core courses per semester.
- Conduct aptitude and logical reasoning workshops with the Training and Placement (T&P) Cell.

5. Foster an Interdisciplinary Approach

- Launch inter-departmental project tracks involving EEE, CS, and Mechanical Engineering students.

- Introduce elective modules: AI and ML for Electrical Engineers, Mechatronics, and Technology Management.
- Facilitate cross-departmental learning through joint seminars, hackathons, and design competitions.

6. Industry Integration and Research Orientation

- Introduce industry-mentored capstone projects in the final year with formal assessment by external experts.
- Establish internship-linked credits and structured industrial visit programmes every year.
- Create opportunities for undergraduate research through faculty-guided projects and inter-institutional collaborations.

Actions Suggested — 2025-26

The following table outlines concrete actions being suggested by the Department of EEE in response to the stakeholder feedback for the academic year 2025-26.

Recommendation	Action Taken / Planned
Strengthen EE Fundamentals	Additional tutorial sessions on circuit theory, electromagnetic fields, and signals & systems; supplementary problem sets introduced.
Enhanced Lab & Hands-On Training	Redesigned lab curriculum to include prototyping, hardware integration, MATLAB/Simulink-based experiments, and industry-problem case studies.
Electronics-Focused Electives	New elective courses proposed: Advanced Analog Electronics, Power Electronics Design, VLSI Fundamentals, and Embedded Systems with RTOS.
Logical & Analytical Skill Building	Aptitude and analytical reasoning workshops introduced; problem-based learning (PBL) methodology adopted in core courses.
Interdisciplinary Learning	Inter-departmental project tracks with CS and Mechanical departments; introduction of IoT and AI for EE elective modules.
Industry-Linked Assessments	Semester-end capstone reviews with industry mentors; internship-linked credits introduced for third-year students.

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Action Taken Report on Curriculum Feedback and Revision

Academic Year: 2025–26 | Programme: B.Tech & M.Tech — Electrical and Electronics Engineering

This report consolidates the actions taken by the Department of Electrical and Electronics Engineering in response to the stakeholder feedback collected during the academic year 2025–26. The Feedback Analysis Report (2025–26) identified key curriculum gaps centred on the need for stronger fundamentals, electronics-based courses, hands-on training, logical skill development, and an interdisciplinary approach. The department has undertaken a series of targeted curriculum enhancements to address these recommendations.

Summary of Feedback Received — 2025–26

Stakeholder	Key Feedback Points
Students	Need stronger fundamentals in core EE subjects; demand more electronics-based practical courses and hands-on lab exposure.
Faculty	Recommended a Learner Centric Approach (LCA) in teaching-learning and assessment; emphasis on electronics design and CAD tools.
Industry	Stress on hands-on training, logical and analytical skills, interdisciplinary learning, and AI-integrated industry applications.
Alumni	Advocated for stronger exposure to electronics design, interdisciplinary projects, and industry-standard tools.
Academic Experts	Recommended strengthening fundamentals, introducing electronics-based core courses, and promoting research orientation.

Actions Implemented — Academic Year 2025–26

The following seven major curriculum and pedagogical actions have been implemented or are in active progress for the 2025–26 academic year, directly responding to the stakeholder feedback:

S.No	Action Area	Action Taken	Outcomes Expected
1	**Electronic System Design — New Core Course**	Electronic System Design has been introduced as a core course in the B.Tech EEE curriculum, equipping students with systematic skills in analog and digital circuit design, PCB layout, and system integration.	Stronger foundation in electronics; improved readiness for industry roles in hardware and embedded design.
2	**AI-Based Courses — Elective Basket**	New AI-based elective courses have been added to the elective basket, covering AI/ML for Electrical Engineers, AI in Power Systems, and intelligent automation — addressing the industry demand for AI-integrated competencies.	Enhanced employability in AI-driven industries; readiness for interdisciplinary and tech-forward roles.
3	**Learner Centric Approach (LCA)**	LCA has been mandated across all courses in the department through the teaching-learning process and/or assessment design. Each course incorporates at least one LCA element such as flipped classroom, problem-based learning, collaborative tasks, or open-ended assessments.	Improved student engagement, deeper conceptual understanding, and development of higher-order thinking skills.
4	**Electrical CAD — Elective Basket**	Electrical CAD has been introduced in the elective basket, enabling students to gain proficiency in industry-standard electrical design and drafting tools such as AutoCAD Electrical and EPLAN, fulfilling the demand for practical design skills.	Industry-ready CAD skills; improved practical competence in electrical drawing and system documentation.
5	**M.Tech — Centralised Course Assessments**	All course assessments for the M.Tech programme have been centralised to ensure uniformity, fairness, and academic rigour. A standardised assessment framework has been adopted across all M.Tech courses in the department.	Consistent evaluation standards; improved transparency and academic integrity in the postgraduate programme.
6	**Industry Integrated Courses — Revised**	Revisions have been made to the existing Industry Integrated Courses to	Greater industry alignment;

		better reflect current industry requirements. Updated content incorporates real-world case studies, new technology modules, and enhanced industry-mentor involvement.	improved student exposure to live projects and professional practices.
7	**New Minor Programme — Industrial IoT (IIoT)**	A new Minor Programme in Industrial Internet of Things (IIoT) has been launched, offering students a structured pathway to develop expertise in IIoT architecture, sensor networks, edge computing, and industrial automation protocols.	Specialised competency in IIoT; enhanced interdisciplinary and industry readiness in a high-demand technology domain.

Head,
Department of Electrical and Electronics Engineering