



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review

## Action Taken Report of the University on the Feedback of Stakeholders

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

Action Taken Report Approved in Board of Studies dated 02/04/2016 and implemented with effect from 01/08/2016

| 1   | Observations/ Recommendations based on feedback | POs impacted  |
|---|---|---|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Students lack ability to apply basic mathematical concepts and lack the rigor of practice.</li> <li>Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Students lack to engage in independent and lifelong learning.</li> <li>Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding of circuits and problem solving practice is essential.</li> <li>Focus on problem solving using programming skills and use of online platform.</li> <li>In circuit analysis course i.e. basic concepts of RLC, V-I and devices is required.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for introduction of basic controller and its programming.</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for content delivery by industry experts.</li> <li>Recommended for inclusion of basic microcontroller under embedded system stream.</li> <li>Students lack to understand the basic of RISC architecture and its programming.</li> <li>Students ability to realize digital system design using concurrent programming is poor.</li> </ul> |   | <p>PO 1<br/>PO 2<br/>PO 3<br/>PO 4<br/>PO 5<br/>PO 12</p> |

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 `Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

### School of Electronics & Communication Engineering

| Actions taken  | Course Revised / Added  | BoS approved Date |
|--|---|-------------------|
| <b>Based on the feedback from stake holders the following actions have been initiated</b>  |   |                   |
| 1. <b>Flipped mode of teaching</b> is introduced to provide rigor of problem solving practice and strengthening the basic circuit concepts for the course <b>circuit analysis</b> which engages students learning beyond class hours with access to content and interactive problem –solving interface | Circuit Analysis-15EECC201<br>Revised- Delivery and Assessment                    | <b>02/04/2016</b> |
| 2. A course on 8051 microcontroller and programming is introduced to help the students to understand basic 8-bit controller architecture, its interfaces and programming for a given application.  | Microcontroller architecture and programming-15EECF202<br>Added- New Course       |                   |
| 3. To enhance problem solving and programming skills online coding platform hacker rank is introduced in addition to regular assessment methods and IDE tools.   | Data Structures using C-15EECF201<br>Revised- Delivery and Assessment             |                   |
| 4. Integrated theory and laboratory to facilitate more hands on with target platform which aids in timing and power analysis with area constraints for the given digital design  | Digital system design using Verilog-15EECC208<br>Revised- Delivery and Assessment |                   |

**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 011

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 `Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

*W C Jm*



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|  |  |  |
|--|--|--|
| 5. Laboratory curriculum focusing on structured enquiry and open ended category of experiments to increase students reasoning ability and experimental investigations are enhanced | Analog Electronics and<br>Digital electronics<br>laboratory-<br>15EECP202/15EECP201<br>Revised- Conduction and<br>Assessment |  |
|--|--|--|

**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

#### 1. Action Taken Report Approved in Board of Studies dated 15/04/2017 and implemented with effect from 01/08/2017

| 1  | Observations/ Recommendations based on feedback | POs impacted  |
|--|---|---|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> <li>Students lack in Industry standard coding styles and algorithmic analysis.</li> <li>Understanding of professional engineering regulations, legislation and standards.</li> <li>Ability to apply the Code of Ethics and responsibilities.</li> <li>Ability for effective communication, problem solving, conflict resolution and leadership skills.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding of circuits, system design and problem solving practice.</li> <li>Focus on problem solving using programming skills and use of online platform.</li> <li>Combinational logical reduction techniques with more number of variables in digital circuit is time consuming and procedure based.</li> <li>Focus on embedded programming with and without optimization</li> <li>Collaborate with industry to get exposure to complete chip design flow, tools, courses etc.</li> <li>Understanding of Data converters is required for design of electronic system in real time nonlinear applications.</li> </ul> |   | <p>PO 2<br/>PO 3<br/>PO 4<br/>PO 5<br/>PO 6<br/>PO 8<br/>PO 9<br/>PO 10<br/>PSO 1<br/>PSO 2<br/>PSO 3</p> |



### School of Electronics & Communication Engineering

|   |   |                          |
|---|---|--------------------------|
| <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>• Need more exposure to current trends and technologies.</li> <li>• Hands on with Integrated Development Environment (IDEs)</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>• Recommended for co-delivery by industry experts.</li> <li>• Industry specific skills for employability</li> <li>• Recommended to focus on code optimization techniques in C/ Embedded C Programming/Data Structure Knowledge and projects.</li> <li>• Suggested to have projects reviews with industry experts.</li> <li>• Recommended to include elective courses in VLSI design domain to cover a complete chip design flow from netlist to GDSII.</li> <li>• Connect with industry mentors for Chip design program.</li> <li>• Recommended for Industry specific courses with collaboration and Co-teaching.</li> <li>• Inclusion of Rapid prototyping using industry standard model based design (MBD) Approach for automotive industry</li> </ul> |   |                          |
| <b>Actions taken</b>  | <b>Course Revised / Added</b>                     | <b>BoS approved Date</b> |
| <b>Based on the feedback from stake holders the following actions have been initiated</b>   |   |                          |
| 1. Introduction of machine learning course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems  | Machine learning-<br>17ECC307<br>Added-New Course |                          |

*Quis*

*nc Jm*

### School of Electronics & Communication Engineering

|  |  |                   |
|--|--|-------------------|
| 2. Mini project focusing on code optimization using Embedded programming on an ARM based target hardware is introduced.  | Mini Project-17EECW301<br>Added-New Course   | <b>15/04/2017</b> |
| 3. Theme based minor project in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced  | Minor Project-<br>17EECW302<br>Added-New Course  |                   |
| 4. Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems such as Speed control, PID control is introduced in automotive electronics laboratory  | Automotive Laboratory-<br>17EECP302<br>Revised- Content  |                   |
| 5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts(Embedded operating) and realising the same with programming focusing on code optimization.                                    | Operating systems and<br>embedded system<br>design-17EECC304<br>Revised- Content                 |                   |
| 6. Design of open ended Experiments using software defined radio (SDR) for design and testing of communication protocols with performance analysis   | Communication and<br>signal processing<br>laboratory-17EECP301<br>Revised- Content               |                   |
| 7. Socket programming skills for point to point communication, point to multi point communication and open ended experiments for application of network devices such as switches and routers in collaboration with Juniper networks is introduced. | Computer<br>communication network<br>laboratory-17EECP303<br>Revised- Delivery and<br>Assessment |                   |

### School of Electronics & Communication Engineering

|  |  |                   |
|--|--|-------------------|
| 8. Network of physical objects that are embedded with sensors, software, and other communication protocols for connecting and exchanging data with other devices and systems over the internet is introduced in the course with experiential learning.   | Internet of Things-<br>17EECE307<br>Added-New Course                           | <b>15/04/2017</b> |
| 9. Flipped mode of teaching is extended to strengthen electronic system design concepts for the course linear integrated circuits which engages students learning beyond class hours with access to content and interactive problem –solving interface with design experience  | Linear integrated<br>Circuits-17EECC205<br>Revised- Delivery and<br>Assessment |                   |
| 10. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies.   | Advanced Digital Logic<br>Design-17EECE302<br>Added-New Course                 |                   |
| 11. The course is intended to impart training in verifying using system Verilog incollabration with industry to develop skills required to become a verification engineers. Emphasis of the teaching curriculum is on design & Verification methodologies and on its practical applications. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies, which is high in demand in VLSI & Embedded Systems industries. | Advanced Digital Logic<br>Verification-18EECE418<br>Added-New Course           |                   |
| 12. A course in the domain of analog VLSI in collaboration with industry to enhance teaching learning electronic circuit design and analysis. The course is highly practical   | Analog Circuit design-<br>17EECE301<br>Added-New Course                        |                   |



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|  |  |  |
|--|--|--|
| oriented with 75 % of time spend on hands on practices by the candidates with emphasis on hands-on using industry standard tools |  |  |
|--|--|--|

**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

#### 1. Action Taken Report Approved in Board of Studies dated 07/04/2018 and implemented with effect from 01/08/2018

|   | Observations/ Recommendations based on feedback | POs impacted   |
|---|---|--|
| <b>Employers Feedback:</b>  |   |  |
| <ul style="list-style-type: none"> <li>Students should be able to evaluate the economic and financial performance of an engineering activity.</li> <li>Able to generate a diverse set of alternative design solutions for the given application.</li> <li>Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Understanding of professional engineering regulations, legislation and standards.</li> <li>Ability to apply the Code of Ethics and responsibilities.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems.</li> </ul> |   | PO 3<br>PO 5<br>PO 6<br>PO 8<br>PO 9<br>PO 11<br>PSO 1<br>PSO 2<br>PSO 3 |
| <b>Teachers Feedback (Pre-BoS MoM):</b>   |   |  |
| <ul style="list-style-type: none"> <li>Conceptual understanding of systems and their functional verification with hardware implementation is recommended.</li> <li>To focus on latest trends in communication technology.</li> <li>Formulation of application oriented examples</li> <li>Focus on problem solving using programming skills and use of online platform.</li> <li>Focus on embedded programming with and without optimization</li> <li>Collaborate with industry to get exposure to complete chip design flow, tools, courses etc.</li> </ul>   |   |  |

*Prasad*  
**REGISTRAR**

**KLE Technological University**  
HUBBALLI-580 031

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

*ncj*

## School of Electronics & Communication Engineering

| <ul style="list-style-type: none"> <li>Lateral Entry Student's lack basic programming skills, to apply and realize real world problems and also rigor of practice.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Focus on exposure to industries working in the domain of AI and ML.</li> <li>Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Knowledge of latest trends in mobile communication technology.</li> <li>Industry specific skills for employability.</li> <li>Depth of programming and analysis</li> <li>Recommended to include emulators for debugging and inclusion of Linux concepts for embedded systems.</li> <li>Recommended industry visits and internships.</li> <li>Need for Code profiling and introduction to online coding platform.</li> <li>Suggested to have projects reviews with industry experts and seek inputs.</li> <li>Recommended for Industry specific courses with collaboration and co-teaching.</li> </ul> |   |                   |
|---|---|-------------------|
| Actions taken   | Course Revised / Added  | BoS approved Date |
| Based on the feedback from stake holders the following actions have been initiated  |   |                   |
| 1. To understand how emerging technologies are changing the landscape, including enterprise personnel responsible for making cellular communications decisions(5G wireless communications), a wireless and mobile communication is added as a core  | Mobile and Wireless Communication-18EECC401<br>Added-New Course |                   |

### School of Electronics & Communication Engineering

|   |  |                   |
|---|--|-------------------|
| course focusing on cellular communication methods, standards and cellular networks operation  |  |                   |
| 2. To know in-depth know-how of microwave engineering and antennas for use in future applications, like millimetre-wave 5G/beyond-5G wireless communications or automotive radar, that requires integrated antenna systems a course on Microwave and Antennas is introduced as an elective course.  | Microwave and Antennas-18EECE411<br>Added-New Course | <b>07/04/2018</b> |
| 3. To gain complete chip design flow knowledge CMOS ASIC design course in collaboration with industry is introduced with hands-on intensive. The course covers the Physical design flow of IC. Experiments explore complete digital design flow of programmable ASIC through VLSI EDA tools. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. Students work from design entry using Verilog code to GDSII file generation of an ASIC. | CMOS ASIC Design-18EECE420<br>Added-New Course       |                   |
| 4. A course in the domain of analog vlsi in collaboration with industry to enhance teaching learning in Analog circuit design and layout, in turn build upon competency through mini minor and capstone projects. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates with emphasis on hands-on using industry standard tools   | Physical Design Analog-18EECE419<br>Added-New Course |                   |
| 5. Linux-based embedded systems are widely used in smartphones, in-vehicle infotainment systems, consumer electronics and for numerous industrial applications, resulting in the demand for qualified embedded system engineers with hands on in Linux. To make students acquire the practical skills involved in building an embedded  | Embedded Linux-18EECE405<br>Added-New Course         | <b>07/04/2018</b> |

### School of Electronics & Communication Engineering

|   |   |  |
|---|---|--|
| Linux system, as well as debugging and profiling application an elective course on embedded Linux is introduced.  |   |  |
| 6. To get an industry like experience of deep learning technology on mobile devices using Android, and enrich students understanding from concept development to model deployment.  | Embedded Intelligent Systems-17EECE310<br>Added-New Course    |  |
| 7. A course on data structure application is introduced to enhance rigor in building programming skills and to bridge the gap of applying the required data structures and algorithmic skills to solve complex real world problems. Emphasis is on use of industry standard coding and online coding platform.  | Data structure applications lab-18EECC210<br>Added-New Course |  |
| 8. To impart programming skills for lateral entry students, a basic course on C programming is introduced   | C programming for Diploma-18EECF204<br>Added-New Course       |  |
| 9. A course on Institutional Research project (IRP) is introduced to provide students an exposure for solving a real time projects involving current technologies using KLETECH echo system as a live lab.  | Institutional Research Project-17EECE491<br>Added-New Course  |  |
| 10. A course REU is introduced to enable students to take part in the research mission in their future career during and beyond their academia. It also helps them to experience and learn to identify, solve and evaluate Engineering solution for a real time problem.  | Research for UG-17EECE490<br>Added-New Course                 |  |
| 11. The minor in electronics is specially designed to enable the students from non-circuit discipline to develop their basic competency in electronic s and embedded systems relevant to their major disciplines, enhancing their carrier opportunities. Program engages students for 300 hours of experiential learning through 4 courses followed by a project. | Minor Programme<br>Added-New Course                           |  |



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|  |   |  |
|--|---|--|
| 12. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.           | Internship Training-<br>18EECI493<br>Added-New Course |  |
| 13. Industry Internship project is introduced to enable students to work on live projects with industry skill sets and meeting deadlines | Internship Project-<br>18EECW494<br>Added-New Course  |  |

**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 033

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

#### 1. Action Taken Report Approved in Board of Studies dated 13/04/2019 and implemented with effect from 01/08/2019

| 1 | Observations/ Recommendations based on feedback   | POs impacted                  |
|---|---|-------------------------------|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>• Able to generate a diverse set of alternative design solutions for the given application.</li> <li>• Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>• Enhance basic programming skills, to apply and realize real world problems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>• To focus on latest technological trends and development.</li> <li>• Formulation of application oriented examples</li> <li>• Focus on problem solving using programming skills and use of online platform.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>• Focus on real time applications.</li> <li>• Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>• Industry Specific Skills for employability.</li> <li>• Depth of programming and analysis.</li> </ul> | <p>PO 2<br/>PO 3<br/>PO 5</p> |
|   | <b>Actions taken</b>  | <b>Course Revised / Added</b> |
|   | Based on the feedback from stake holders the following actions have been initiated  | <b>BoS approved Date</b>      |



### School of Electronics & Communication Engineering

|   |   |                   |
|---|---|-------------------|
| 1. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realising the same using EDA Tools with separate credits for theory and labs.  | CMOS-19EECC301<br>Revised- Delivery                             | <b>13/04/2019</b> |
| 2. A course on Object Oriented Programming to aid the students for heterogeneous computing in real time context is introduced using C++.  | OOPS using C++-<br>19EECE302<br>Added- New course               |                   |
| 3. To emphasize the basic principles of bio sensing in terms of photonic/ optical responses and demonstrate the same using simulation and modelling tools, a course on biosensor is introduced with experiential learning.  | Biosensor-19EECE416<br>Added-New course                         |                   |
| 4. Network of physical objects that are embedded with sensors, software, and other communication protocols for connecting and exchanging data with other devices and systems over the internet is introduced in the course with separate credits for course project.                | Internet of things-<br>19EECE401<br>Revised- Delivery           |                   |
| 5. To introduce the principles and applications of information theory with coding techniques for performance analysis of communication channel, modelling and simulation using MATLAB/Simulink followed by a course project is introduced with separate credits for course project. | Information Theory and<br>coding-19EECE402<br>Revised- Delivery |                   |
| 6. Context based learning for the most fundamental course in communication domain is introduced in the course Signals and Systems through Co-teaching. Mathematical concepts are mapped with physical interpretation of signal processing towards better learning .                 | Signals and<br>Systems19EECC202<br>Revised- Delivery            |                   |

*Ques*

*rcj*

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

#### 1. Action Taken Report Approved in Board of Studies dated 30/05/2020 and implemented with effect from 01/05/2020

| 1 | Observations/ Recommendations based on feedback   | POs impacted   |
|---|---|--|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Students should be able to develop engineering solutions in societal and environmental contexts.</li> <li>Ability for effective communication, problem solving, conflict resolution and leadership skills.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Formulation of application oriented examples.</li> <li>Focus on problem solving using programming skills and use of online platform.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>To focus on latest technological trends and development.</li> <li>Formulation of application oriented examples.</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Recommended for co-delivery by industry experts.</li> </ul> | <p>PO 7<br/>PO 9<br/>PO 10<br/>PO 11<br/>PO 12<br/>PSO 1<br/>PSO 2<br/>PSO 3</p> |
|   | <b>Actions taken</b>  | <b>Course Revised / Added</b>  |
|   | <b>Based on the feedback from stake holders the following actions have been initiated</b>   | <b>BoS approved Date</b>   |
|   | 1. Theme based project with strong emphasis on design aspects in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced.   | Senior Design Project-20EECW401<br>Added-New course                              |

  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031





### School of Electronics & Communication Engineering

|   |   |                   |
|---|---|-------------------|
| 2. Industry/Research/Academic project with more emphasis on design aspects and real time constraints in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced.  | Project Work-20EECW402<br>Revised- Delivery | <b>30/05/2020</b> |
| 3. A standardized interface for software components in the application layer and application software components for building applications to support the vehicle functions is introduced. Course prepares students to be industry ready with hands on using standard tools and industry mentored projects. | Autosar-20EECE406<br>Revised- Delivery      |                   |

**REGISTRAR**  
KLE Technological University,  
HUBBALLI-580 031



Earlier known as  
B. V. B. College of Engineering & Technology

School of Electronics & Communication Engineering **DE**

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

*[Signature]*  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

*ncj*



## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG Digital Electronics

Action Taken Report Approved in Board of Studies dated 02/04/2016 and implemented with effect from 01/08/2016

| 1 | Observations/ Recommendations based on feedback   | POs impacted   |
|---|---|--|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Students lack to engage in independent and lifelong learning.</li> <li>Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding of circuits and problem solving practice is essential as students come from different colleges.</li> <li>Focus on problem solving and programming skills.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for the brief introduction to fundamental courses.</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for content delivery by industry experts.</li> <li>Recommended for inclusion of basic microcontroller under embedded system stream.</li> <li>Students ability to realize digital system design using concurrent programming is poor.</li> </ul> | <p>PO 1<br/>PO 3<br/>PO 4<br/>PO 5</p>                               |
|   | <p><b>Actions taken</b></p>   | <p><b>Course Revised / Added</b></p> <p><b>BoS approved Date</b></p> |

27 CY



### School of Electronics & Communication Engineering

| Based on the feedback from stake holders the following actions have been initiated  |   |                   |
|---|---|-------------------|
| 1. To understand the basic principles of engineering education a new pedagogical course is introduced.  | Principles and Practices of Engineering Education-15ECRC701                                 | <b>02/04/2016</b> |
| 2. A laboratory course on RTES is introduced to help the students to understand basic architecture and programming for a given application.               | Real Time Embedded Systems Lab -15EDEP706<br>Added- New Lab Course                          |                   |
| 3. Integrated theory and laboratory to facilitate more hands on with target platform which aids fault diagnosis and characterization of digital circuits. | Fault Diagnosis and Testing for VLSI Circuits-15EDEC708<br>Revised- Delivery and Assessment |                   |

*[Signature]*  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

*[Handwritten mark]*



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

207



## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG Digital Electronics

#### 1. Action Taken Report Approved in Board of Studies dated 15/04/2017 and implemented with effect from 01/08/2017

| 1   | Observations/ Recommendations based on feedback | POs impacted                           |
|---|---|--|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Enhance the knowledge of fundamental courses.</li> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> <li>Ability for effective communication, problem solving, conflict resolution and leadership skills.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded Systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding of circuits, system design and problem solving skills.</li> <li>Focus on embedded systems programming.</li> <li>Collaborate with industry to get exposure to automotive electronics and infotainment.</li> <li>Understanding of machine learning concepts for signal processing applications.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Need more exposure to fundamental courses and current trends.</li> <li>Hands on with Integrated Development Environment (IDEs)</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Recommended for co-delivery by industry experts.</li> <li>Industry specific skills for employability</li> </ul> |   | <p>PO 2<br/>PO 3<br/>PO 4<br/>PO 5</p> |

REGISTRAR  
KLE Technological University  
HUBBALLI-580 031

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031, Karnataka (India)  
Tel: +91 - 836 - 2378250 `Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

Handwritten signature/initials



### School of Electronics & Communication Engineering

| <ul style="list-style-type: none"> <li>Recommended to focus on Data Structures.</li> <li>Suggested to have projects reviews with industry experts.</li> <li>Recommended to include elective courses in Automotive and Image Processing areas.</li> <li>Focus on exposure to industries working in the domain of AI and ML.</li> </ul> |   |                   |
|---|---|-------------------|
| Actions taken   | Course Revised / Added  | BoS approved Date |
| Based on the feedback from stake holders the following actions have been initiated  |   |                   |
| 1. Exclusive laboratory experience is introduced for design of Electronic Circuits.   | Electronic System Design-17EDEC707,<br>Added-New Course           |                   |
| 2. Introduction of Data Structures using C for the enhancement of basic programming skills.   | Data Structures using C -<br>17EDEC701<br>Added-New Course        |                   |
| 3. Introduction of machine learning course with Project-based learning.   | Machine Learning-<br>17EDEC705<br>Added-New Course                |                   |
| 4. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.   | Fundamentals of Signal Processing-17EDEC704,<br>Added- New Course |                   |
| 5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.   | Principles of Embedded Systems-17EDEC703,<br>Added- New Course    |                   |

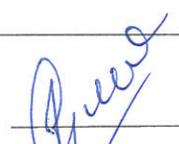
*[Signature]*  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-590 001

*[Handwritten initials]*



### School of Electronics & Communication Engineering

|   |  |                   |
|---|--|-------------------|
| 6. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.       | Analog and Digital Circuits-17EDEC702<br>Added- New Course | <b>15/04/2017</b> |
| 7. Introduction of a new course focusing on how should new HLL programs be compiled and executed efficiently on a processor architecture. | RISC Architectures-17EDEC706<br>Added- New Course          |                   |
| 8. Introduction of Automotive courses based on the suggestion by industry.  | Automotive Electronics-17EDEC708,<br>Added -New course     |                   |
| 9. Introduction of Automotive courses based on the suggestion by industry.  | Automotive Communication-17EDEC802,<br>Added -New course   |                   |
| 10. Introduction of Automotive courses based on the suggestion by industry.   | AUTOSAR-17EDEC802<br>Added -New course                     |                   |
| 11. Introduction of elective courses for getting in-lined with the industry needs.  | Multi Sensor Data Fusion-17EDEC703,<br>Added -New course   |                   |
| 12. Introduction of elective courses for getting in-lined with the industry needs.  | Digital Control Systems-17EDEC702,<br>Added -New course    |                   |

  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 017

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)





**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|  |   |
|--|---|
| 13. Introduction of elective courses for getting in-lined with the industry needs. | Image and Video Processing-17EDEE701,<br>Added -New course  |
| 14. Introduction of elective courses for getting in-lined with the industry needs. | Internet of Things-<br>17EDEE801,<br>Added -New course      |
| 15. Introduction of elective courses for getting in-lined with the industry needs. | Multirate Signal Processing-17EDEE803,<br>Added -New course |

  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031



**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
REGISTRAR  
KLE Technological University  
HUBBALLI-580 031





## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG Digital Electronics

#### 1. Action Taken Report Approved in Board of Studies dated 07/04/2018 and implemented with effect from 01/08/2018

|  | Observations/ Recommendations based on feedback | POs impacted                  |
|--|---|-------------------------------|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Students should be able to enhance their knowledge with respect to the advancements in computer architectures.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems with knowledge of state of art tools for the development of VLSI/Embedded/Communication systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Focus on problem solving using programming skills.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Focus on exposure to industries working in the domain of Automotive Electronics.</li> <li>Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Industry specific skills for employability.</li> <li>Recommended industry visits and internships.</li> <li>Suggested to have projects reviews with industry experts and seek inputs.</li> <li>Recommended for Industry specific courses with collaboration.</li> </ul> |   | <p>PO 3<br/>PO 4<br/>PO 5</p> |
|  | <b>Actions taken</b>                            | <b>Course</b>                 |
|  |   | <b>BoS approved</b>           |



### School of Electronics & Communication Engineering

|   | Revised / Added   | Date              |
|---|---|-------------------|
| <b>Based on the feedback from stake holders the following actions have been initiated</b>   |   |                   |
| 1. To evaluate the issues involved in choosing the proper instruction sets and to learn the concepts behind advanced pipelining techniques and to understand the qualitative and quantitative tradeoffs in the design of modern computer systems. | Advanced Compter Architecture and Programming-<br>17EDEC801<br>Added-New Course | <b>07/04/2018</b> |
| 2. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.   | 17EDEW801<br>Revised  |                   |

  
REGISTRAR  
KLE Technological University  
HUBBALLI-580 031

207



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
**KLE Technological University**  
**HUBBALLI-580 031**





## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG Digital Electronics

#### 1. Action Taken Report Approved in Board of Studies dated 13/04/2019 and implemented with effect from 01/08/2019

| 1 | Observations/ Recommendations based on feedback   | POs impacted                                     |                                 |
|---|---|--|---------------------------------|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>• Able to visualize electronics and technology advancements for changing automotive systems.</li> <li>• Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>• Enhance basic programming skills, to apply and realize real world problems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>• To focus on latest technological trends and development.</li> <li>• Formulation of application oriented examples</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>• Focus on real time applications.</li> <li>• Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>• Industry Specific Skills for employability.</li> <li>• Depth of programming and analysis.</li> </ul> | <p>PO 1<br/>PO 3</p>                             |                                 |
|   | <p><b>Actions taken</b></p>   | <p><b>Course Revised / Added</b></p>             | <p><b>BoS approved Date</b></p> |
|   | <p><b>Based on the feedback from stake holders the following actions have been initiated</b></p>  |  |                                 |
|   | <p>1. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment .</p>  | <p>Automotive Electronics and Communication-</p> |                                 |

*Handwritten signature*

*Handwritten initials*



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|   |  |            |
|---|--|------------|
|   | 19EDEC701,<br>Added- New course                            |            |
| 2. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment . | AUTOSAR and<br>Infotainment-19EDEC702<br>Added- New course | 13/04/2019 |
| 3. IoT- A unique technology transition that is impacting human lives and will have a huge implications for business of logistics.                                       | Internet of Things-<br>19EDEC703<br>Added- New course      |            |

  
REGISTRAR  
KLE Technological University  
HUBBALLI-580 031





**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
REGISTRAR  
KLE Technological University  
HUBBALLI-580 031





## School of Electronics & Communication Engineering

### Action Plan – PG VDES

#### 1. Action Taken Report Approved in Board of Studies dated 30/05/2020 and implemented with effect from 01/05/2020

| 1   | Observations/ Recommendations based on feedback | POs impacted             |
|---|---|--------------------------|
| <b>Employers Feedback:</b><br><br><b>Teachers Feedback (Pre-BoS MoM):</b><br><br><b>Students Feedback:</b><br><br><b>Alumni Feedback:</b> |   |                          |
|   | <b>Course Revised / Added</b>                   | <b>BoS approved Date</b> |
| Based on the feedback from stake holders the following actions have been initiated  |   |                          |
|   |   |                          |

*[Signature]*  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031

*[Handwritten initials]*



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

*Handwritten signature*

REGISTRAR  
KLE Technological University  
HUBBALLI-580 051

*Handwritten initials*

PG.VDES-14.1



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

A handwritten signature in blue ink, appearing to read 'P. V. B.', is positioned above the official stamp.

**REGISTRAR**  
**K.L.E. Technological University**  
**HUBBALLI-580 031.**

---

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 `Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

nc 2

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG VDES

Action Taken Report Approved in Board of Studies dated 02/04/2016 and implemented with effect from 01/08/2016

| 1 | Observations/ Recommendations based on feedback   | POs impacted   |
|---|---|--|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Enhance basic programming skills, to apply and realize real world problems.</li> <li>Students lack to engage in independent and lifelong learning.</li> <li>Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding of circuits and problem solving practice is essential as students come from different colleges.</li> <li>Focus on problem solving and programming skills.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for the brief introduction to fundamental courses.</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Suggested for content delivery by industry experts.</li> <li>Recommended for inclusion of basic microcontroller under embedded system stream.</li> <li>Students ability to realize digital system design using concurrent programming is poor.</li> </ul> | <p>PO 1<br/>PO 3<br/>PO 4</p>  |
|   | <p><b>Actions taken</b></p>   | <p><b>Course Revised / Added</b></p> <p><b>BoS approved Date</b></p> |

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)

Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

*[Handwritten Signature]*  
**REGISTRAR**  
K.L.E. Technological University  
HUBB  
580 031



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

| Based on the feedback from stake holders the following actions have been initiated  |   |                   |
|---|---|-------------------|
| 1. To understand the basic principles of engineering education a new pedagogical course is introduced.  | Principles and Practices of Engineering Education-15ECRC701 | <b>02/04/2016</b> |
| 2. The architecture of modern controller and bus protocols for embedded systems is introduced and application of the compiler techniques to exploit the instruction level parallelism is focused. | Advanced Processor Architectures - 15EVEC704 Revised Course |                   |

  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031.

*rcj*

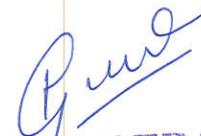


**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031

*Handwritten initials in blue ink*

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG VDES

#### 1. Action Taken Report Approved in Board of Studies dated 15/04/2017 and implemented with effect from 01/08/2017

| 1   | Observations/ Recommendations based on feedback | POs impacted                           |
|---|---|--|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>• Enhance the knowledge of fundamental courses.</li> <li>• Enhance basic programming skills, to apply and realize real world problems.</li> <li>• Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding.</li> <li>• Ability for effective communication, problem solving, conflict resolution and leadership skills.</li> <li>• Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded Systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>• Conceptual understanding of circuits, system design and problem solving skills.</li> <li>• Focus on embedded systems programming.</li> <li>• Collaborate with industry to get exposure to automotive electronics and infotainment.</li> <li>• Understanding of machine learning concepts for signal processing applications.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>• Need more exposure to fundamental courses and current trends.</li> <li>• Hands on with Integrated Development Environment (IDEs)</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>• Recommended for co-delivery by industry experts.</li> <li>• Industry specific skills for employability</li> <li>• Recommended to focus on Data Structures.</li> </ul> |   | <p>PO 2<br/>PO 3<br/>PO 4<br/>PO 5</p> |

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)

Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

REGISTRAR  
K.L.E. Technological University  
HUBBALLI 580 031



### School of Electronics & Communication Engineering

| <ul style="list-style-type: none"> <li>Suggested to have projects reviews with industry experts.</li> <li>Recommended to include elective courses in Automotive and Image Processing areas.</li> </ul> |   |                   |
|--|---|-------------------|
| Actions taken  | Course Revised / Added                                      | BoS approved Date |
| <b>Based on the feedback from stake holders the following actions have been initiated</b>  |   |                   |
| 1. Exclusive laboratory experience is introduced for design of Digital Circuits.   | Electronic System Design-17EVEC707, Added-New Course        | <b>15/04/2017</b> |
| 2. Introduction of Data Structures using C for the enhancement of basic programming skills.  | Data Structures using C - 17EVEC701 Added-New Course        |                   |
| 3. New process technology trends for integrated circuits is introduced.  | IC Fabrication Technology-17EVEC706 Revised                 |                   |
| 4. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.  | Principles of Embedded Systems-17EVEC703, Added- New Course |                   |
| 5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.  | Analog and Digital Circuits-17EVEC702 Added- New Course     |                   |
| 6. Introduction of a new course focusing on how should new HLL programs be compiled and executed efficiently on a processor architecture.  | RISC Architectures- 17EVEC705 Added- New Course             |                   |

*P. Srinivas*  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031.

*ncz*



### School of Electronics & Communication Engineering

|  |  |  |
|--|--|--|
| 7. A course is introduced to visualize and analyze basic model of RTES and understand its characteristics, safety and reliability aspects to achieve highly reliable software.   | Real Time Embedded System-17EVEC709                                |  |
| 8. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies.  | Advanced Digital Logic Design-17EVEC710<br>Added-New Course        |  |
| 9. The course is intended to impart training using system Verilog in collaboration with industry to develop skills required to become testing and verification engineers. Emphasis of the teaching curriculum is on design & verification methodologies and on its practical applications. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies, which is high in demand in VLSI & Embedded Systems industries. | Advanced Digital Logic Verification-17EVEC802,<br>Added-New Course |  |
| 10. The course is intended to impart training in system Verilog in collaboration with industry to develop skills required to become testing and verification engineers. Emphasis of the teaching curriculum is on testing and characterization methodologies which is high in demand in VLSI & Embedded Systems industries.  | Testing and IC characterization-<br>17EVEC711<br>Added-New Course  |  |
| 11. Introduction of Automotive courses based on the suggestion by industry.  | Automotive Electronics-<br>17EVEC708,<br>Added -New course         |  |
| 12. Introduction of Automotive courses based on the suggestion by industry.  | AUTOSAR-17EVEC802<br>Added -New course                             |  |



### School of Electronics & Communication Engineering

|  |  |  |
|--|--|--|
| 13. Introduction of elective courses for getting in-lined with the industry needs. | Standard Cell Design and Layout-17EVEE703<br>Added-New Course    |  |
| 14. Introduction of elective courses for getting in-lined with the industry needs. | Digital Control Systems-17EVEE702<br>Added-New Course            |  |
| 15. Introduction of elective courses for getting in-lined with the industry needs. | Image and Video Processing-17EVEE701<br>Added-New Course         |  |
| 16. Introduction of elective courses for getting in-lined with the industry needs. | Internet of Things-17EVEE801<br>Added-New Course                 |  |
| 17. Introduction of elective courses for getting in-lined with the industry needs. | Low Power VLSI Circuits-17EVEE704<br>Added-New Course            |  |
| 18. Introduction of elective courses for getting in-lined with the industry needs. | Analog and Mixed Mode VLSI Cicuits-17EVEE705<br>Added-New Course |  |
| 19. Introduction of elective courses for getting in-lined with the industry needs. | ASIC Design-17EVEE803,<br>MEMS-17EVEE804<br>Added-New Course     |  |



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|     |  |  |
|-----|--|--|
| 20. |  |  |
| 21. |  |  |

*Handwritten signature*  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI - 580 031.

*Handwritten mark*



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
**K.L.E. Technological University**  
**HUBBALLI-580 031.**

---

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)

## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG VDES

#### 1. Action Taken Report Approved in Board of Studies dated 07/04/2018 and implemented with effect from 01/08/2018

|   | Observations/ Recommendations based on feedback | POs impacted                  |
|---|---|-------------------------------|
| <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>Students should be able to enhance their knowledge with respect to the advancements in computer architectures.</li> <li>Enhance ability to apply design principles in the development of hardware and software systems with knowledge of state of art tools for the development of VLSI/Embedded/Communication systems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>Focus on problem solving using programming skills.</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>Focus on exposure to industries working in the domain of Automotive Electronics.</li> <li>Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>Industry specific skills for employability.</li> <li>Recommended industry visits and internships.</li> <li>Suggested to have projects reviews with industry experts and seek inputs.</li> <li>Recommended for Industry specific courses with collaboration.</li> <li>Focus on exposure to industries working in the domain of AI and ML.</li> </ul> |   | <p>PO 2<br/>PO 4<br/>PO 5</p> |



### School of Electronics & Communication Engineering

| Actions taken   | Course Revised / Added   | BoS approved Date |
|---|--|-------------------|
| <b>Based on the feedback from stake holders the following actions have been initiated</b>   |  |                   |
| 1. To evaluate the issues involved in choosing the proper instruction sets and to learn the concepts behind advanced pipelining techniques and to understand the qualitative and quantitative tradeoffs in the design of modern computer systems. | Advanced Computer Architecture and Programming-17EVEC801<br>Added-New Course | <b>07/04/2018</b> |
| 2. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.   | 17EDEW801<br>Revised   |                   |
| 3. Introduction of machine learning course with Project-based learning.   | Machine Learning-17EVEC708<br>Added-New Course                               |                   |
| 4. Introduction of an elective course which helps the students to visualize the integration of multiple components of a system onto a single chip with interconnection structures (Buses and Networks) and accelerators.                          | System on Chip-17EVEE806<br>Added-New Course                                 |                   |
| 5. A course is introduced to give an insight on the concepts and classification of modelling and simulation and their architecture and application areas.   | System Simulation and Modelling-17EVEE804<br>Added-New Course                |                   |



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031

*ncz*

---

B. V. Bhoomaraddi College Campus, Vidyanagar, Hubballi 580031. Karnataka (India)  
Tel: +91 - 836 - 2378250 Fax: +91 - 836 - 2374985. [www.kletech.ac.in/ece](http://www.kletech.ac.in/ece)



## School of Electronics & Communication Engineering

### Action Plan – Academic Review of PG VDES

#### 1. Action Taken Report Approved in Board of Studies dated 13/04/2019 and implemented with effect from 01/08/2019

| 1 | Observations/ Recommendations based on feedback   | POs impacted                                       |
|---|---|--|
|   | <p><b>Employers Feedback:</b></p> <ul style="list-style-type: none"> <li>• Able to visualize electronics and technology advancements for changing automotive systems.</li> <li>• Enhance ability to identify and formulate problem in designing electronic system for real world applications.</li> <li>• Enhance basic programming skills, to apply and realize real world problems.</li> </ul> <p><b>Teachers Feedback (Pre-BoS MoM):</b></p> <ul style="list-style-type: none"> <li>• To focus on latest technological trends and development.</li> <li>• Formulation of application oriented examples</li> </ul> <p><b>Students Feedback:</b></p> <ul style="list-style-type: none"> <li>• Focus on real time applications.</li> <li>• Hands on using EDA tools with Integrated Development Environment (IDEs).</li> </ul> <p><b>Alumni Feedback:</b></p> <ul style="list-style-type: none"> <li>• Industry Specific Skills for employability.</li> <li>• Depth of programming and analysis.</li> </ul> | <p>PO 3<br/>PO 5</p>                               |
|   | <b>Actions taken</b>  | <b>Course Revised / Added</b>                      |
|   | <b>Based on the feedback from stake holders the following actions have been initiated</b>   |  |
|   | 1. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment .   | Automotive Electronics and Communication-19EVEC701 |
|   |   | <b>BoS approved Date</b>                           |



**KLE** Technological  
University

Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

### School of Electronics & Communication Engineering

|   |  |            |
|---|--|------------|
|   | Added- New course  | 13/04/2019 |
| 2. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment . | AUTOSAR and<br>Infotainment-19EVEE707<br>Added- New course |            |

  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031.

ncj



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

**School of Electronics & Communication Engineering**

---

# Course Design Review Action Taken Report of the University on the Feedback of Stakeholders

  
**REGISTRAR**  
K.L.E. Technological University  
HUBBALLI-580 031



## School of Electronics & Communication Engineering

### Action Plan – Academic Review of School of Electronics and Communication

#### 1. Action Taken Report Approved in Board of Studies dated 30/05/2020 and implemented with effect from 01/05/2020

| 1   | Observations/ Recommendations based on feedback | POs impacted             |
|---|---|--------------------------|
| <b>Employers Feedback:</b><br><br><b>Teachers Feedback (Pre-BoS MoM):</b><br><br><b>Students Feedback:</b><br><br><b>Alumni Feedback:</b> |   |                          |
|   | <b>Course Revised / Added</b>                   | <b>BoS approved Date</b> |
| Based on the feedback from stake holders the following actions have been initiated  |   |                          |
|   |   |                          |