



Faculty of Engineering
Department of Electronics & Communication Engineering

Curriculum Feedback Analysis - 2018-19

As part of the curriculum design and development, CHRIST (Deemed to be University) has adopted the process of collecting feedback on curriculum from stakeholders which include the current students, alumni, faculty members, industry experts and academic experts. This helps in understanding the gaps and assists in the constructive design and development of the curriculum.

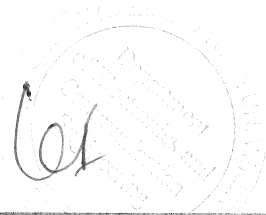
This year reviews and feedback were collected from the following experts

Academic Experts

SI No	Name	Organization	Designation	Domain
1	Dr.Ravish Aradhya	R.V College of Engineering, Bangalore	Professor	VLSI & Embedded Systems
2	Dr.T.Shanmughanatham	Pondicherry University	Associate Professor	RF & Microwave

Industry Experts

SI No	Name	Organization	Designation	Domain
1	Sundaram Ramalingam	NVidia Graphics	Head - Deep Learning Practice	Artificial Intelligence
2	Siva.S	Analog Devices	Director - Automotive Software Management	Signal Processing
3	Mr.Santhosh.T.R	Tessolve Semiconductor Private Ltd.	Design Engineer (TFT)	VLSI & Embedded Systems
4	Mr.Nagaraj	ELDAAS Technologies	Design Engineer	RF & Microwave



62

Faculty Members

Feedbacks were collected from course handling faculty members for their respective courses handled in the even semester of 2017-18 and odd semester of 2018-19. Feedbacks were collected from 19 faculty members.

Alumni

Feedbacks were collected from alumni of the department currently working in reputed organizations like Nokia Networks & Solutions, Tech Mahindra, HP, Toshiba etc. In total, feedback on the curriculum was collected from 25 alumni.

Students

Feedbacks were collected from all the students of the department. Students from 4BTEC, 6BTEC and 8BTEC have given their opinions on the curriculum they are studying.

An analysis of all the feedbacks was done and following is a summary of all the feedbacks

1. Labs/practice sessions may be designed keeping in mind the industry needs. For example, FPGA implementations, Power aware designs, use of tools like cadence/synopsis, etc.
2. Computer Organization & Architecture (EC432)
 - Since microprocessor is part of the content, suggestion was to change the title to Computer Organization & Processor
 - Logic Unit may also be added to the existing arithmetic unit, so that complete ALU design concept can be given.
 - Suggestion was given to remove 8085 microprocessor and include interfacing devices as a new unit.
 - More concepts from system design perspective was expected to be included in Unit-V
 - To check the purpose of having the text book "The Pentium Microprocessor" by James Antonakos
3. Microprocessor & Microcontroller (EC534)
 - Suggestion was given to change the title to "Microcontroller based system designs"
 - Microprocessor and Interfacing by Gibson was asked to be checked for relevance. Recommendation was to include the book "8051 Microcontroller" by K.J.Ayala
4. VLSI Design (EC631)
 - A separate and full HDL (Verilog HDL) may be designed, helping students to gain proficiency in front-end designs.
 - Unit-4 may be split into two separate units; so that complete system design concepts may be given [Unit-4: Combinational systems Design and Unit-5: Sequential Systems Design]
5. Advanced Electronic System Design
 - Advanced ADCs like $\Sigma-\Delta$, pipelined ADCs may be included
 - DACs need to be considered as a part of Data Acquisition Systems
 - Relevance of Design of PCB as Unit-V was suggested to be relooked.

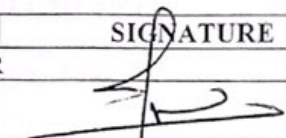
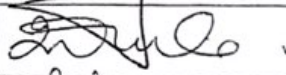
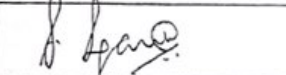
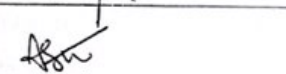
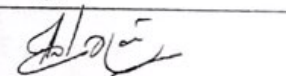
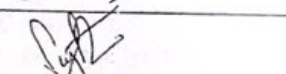
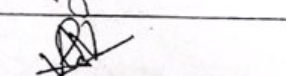

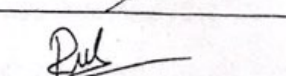
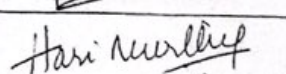

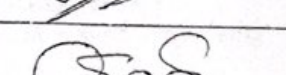
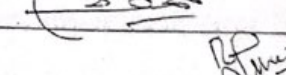
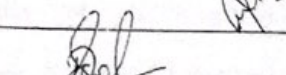
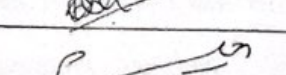
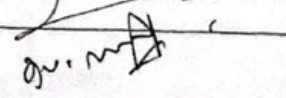
6. VLSI Subsystems
 - Units: 1, 2, 3 and 4 overlap with EC631 contents.
 - Unit-5 in EC631 has to be changed, hence 80% of this contents can be merged there.
 - This course may be completely re-built on Unit-5 and re-named as "VLSI Testing"
7. Analog VLSI Design
 - Suggestion was to consider changing MOS Transistor to differential amplifiers in Unit-I if it is already covered in VLSI Design.
8. ASIC Design
 - Comment was that the complete subject deals with programmable ASIC (FPGA) but not on Analog and can be considered.
9. Signal Processing domain subjects are not having any major feedbacks or comments.
10. RF & Microwave domain subjects were reviewed and no major feedbacks or suggestions.
11. Suggestion from the alumni was that there should be more mini projects which should not be assigned by the teachers
12. Suggestion to introduce courses on any one of Machine Learning, AI, Computer Vision was given by the alumni.
13. Introduction of more industry/application oriented courses to the elective basket for UG and PG was suggested by the students.
14. Feedback from students were more oriented towards having more practical sessions for the courses in the curriculum

These points are to be considered for discussion in the Department CDC meeting and expected to arrive at a final conclusion regarding the proposals to the BOS meeting for curriculum revision based on the feedbacks received.

FACULTY OF ENGINEERING,

Department of Electronics and Communication Engineering
 Board of Studies
 5 February, 2019

Attendance Sheet

Sl.No	NAME OF THE MEMBER	SIGNATURE
INTERNAL MEMBER		
1	Dr. Iven Jose (Chair Person)	
2	Ms. Inbanila K	
3	Dr. Suganthi.S	
4	Dr. Aswathakumara.M	
5	Dr. H.L.Viswanath	
6	Dr. Sujatha.S	
7	Dr. Aneesh.V	
8	Dr. Sounik Kiran Kumar Dash	
9	Dr. Rusan Kumar Barik	
10	Dr. Harimurthy	
11	Mr. Vinay Jha Pillai	
12	Mr. Shashikumar.D	
13	Mr. Partha.R	
14	Mr. Delson.T.R	
15	Mr. Sushanth.G	
16	Mr. Vivek.R	

CHRIST

BENGALURU · INDIA

18	Ms. Chandra Mukherjee	<i>Chandra</i>
19	Mr. Xavier Arockiaraj	ABSENT

Sl.No	NAME OF THE MEMBER	SIGNATURE
EXTERNAL MEMBER		
1	Dr. Raghunandan Srinath (External Expert - Academic)- Prof. Dept of ECE, NMIT Bangalore	<i>S. Raghunandan</i>
2	Mr. Sambarto Kishore De (External Expert - Industry)- Vice President, HSBC Bangalore.	<i>Sambarto</i>
3	Mr. Sunil Kumar HV (Invitee) – Director, Vivartan Technologies	<i>Sunil Kumar HV</i>

Faculty of Engineering
Christ (Deemed to be University)
Kengeri Campus

9

Minutes of the 10th Meeting of the Board of Studies of the Department of Electronics and Communication Engineering Held on 05 February 2019 at 10.00am at the Conference Room, First Block, Kengeri Campus, CHRIST (Deemed to be University)

In the Chair: Dr Iven Jose, Associate Dean

Members Present:

All members in the attendance list (Annexure A) were present.

Leave of Absence

There was no leave of absence

Declaration of Quorum and Calling the Meeting to Order:

The Chairperson commenced the meeting with a silent prayer followed by a note of welcome to all the members. Thereafter the Chairperson declared the validity of the Quorum and called the Meeting to Order.

Matters on the Agenda:

1. To confirm the Minutes of the previous meeting held on 03 February, 2018

The minutes of the previous meeting of the Board of Studies was duly reviewed and approved by the meeting. It was noted that there were no matters arising out of the minutes.

2. To consider and recommend the changes in the curriculum for B.Tech programme (as per Annexure B)

1. Implementation of the course structure as per AICTE 2018 norms for B.Tech with total credits of 164 and the credit distribution was done matching the AICTE course categories.
2. External experts shared their opinion on placement of HSMC courses for BTECH students from 3rd year onwards and Cyber Security subject to be added in the final year. He suggested adding concepts of *industry 4.0* to Industrial Automation subject.
3. They also suggested about commencement of final year BTECH project work from 6thsem onwards
4. Adding IoT related courses as core paper rather than elective was suggested by the experts to meet the industry requirement with hands-on exercises on AI, ML and Data Analytics.
5. The changes incorporated in two unit content of EC435 Linear Integrated Circuits for the batch of 2018 and 2017 were discussed and approved.

3. To consider and recommend the changes in the curriculum for M.Tech programme

M.Tech - Communication Systems (IC Design) -Proposal (as per Annexure C)

1. The Board after much deliberation and discussion approved the new nomenclature, M.Tech-Communication Systems (IC Design).
2. The course structure and the detailed syllabus for M.Tech-Communication Systems (IC Design) was deliberated, reviewed and approved by the Board.
3. The external experts opined that the course structure and syllabus was well thought through.

4. To consider and approve the Generic Electives, Skill Enhancement, Non-Core Elective courses, offered to other departments

The Board considered the proposed open electives and the skill enhancement one credit courses offered by the department and global electives as per details given in Annexure F and approved the same. The Board appreciated the value adding benefits of the Programme

[Handwritten signature and text]

5. To ratify the circular resolution passed for employability enhancement courses.

Circular resolution was passed on the policies for the employability enhancement courses for students with consistent academic records. The Board ratified the circular resolution.

6. To review the Results of the ESE October 2018 for B.Tech Programme

The Result Analysis of the End Semester Examinations of October 2018 for B.Tech in ECE was reviewed by the BOS. There were no matters arising out of the result analysis.

7. To review the Results of the ESE October 2018 for M.Tech in Communication Systems Programme

The Result Analysis of the End Semester Examinations of October 2018 for M.Tech in Communication Systems was reviewed by the BOS. There were no matters arising out of the result analysis.

8. To consider and approval of the panel of examiners and BOS Experts

The board discussed and approved a panel of 10 examiners and 6 BOS experts (as per Annexure G).

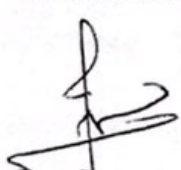
9. To consider and approval of the selection criteria, admission process for the BTech and M.Tech programmes

The Board approved the selection and admission criteria adhered by the department for the BTech and MTech programmes applicable from 2019-20.

10. To consider any others matters with the permission of the Chair.

The Board discussed on the PhD registrations in the department and their respective research domains. The strategic plan of the department over the next five years to achieve the strategic goal of World Class University was also discussed. Several research ideas for external funding and project work related to the internal faculty expertise were deliberated.

With no other matters to discuss Chairperson thanked all the board of studies members including experts and invitees for their presence and valuable suggestions. The Chairperson adjourned the meeting.


Dr Iven Jose
Chairperson
Board of Studies



Faculty of Engineering
Department of Electronics and Communication Engineering
Action Taken Report on Syllabus 2018-19

Department of Electronics and Communication Engineering has made it mandatory to collect feedback from all the stakeholders for revision of curriculum. This feedback is later analyzed and discussed in the Curriculum Design and Development Cell (CDC) at the department to ensure that the feedback is taken positively and implemented for the next academic year. This academic year of 2018-19, feedback were collected from various stakeholders like students, teachers, alumni and industry experts along with parents. These feedback were then analyzed and deliberated in meetings within the department. Through these discussions and deliberations, a feasibility analysis was performed and the following are the actions taken based on the same. This will be implemented for the academic year of 2019-20.

Action Taken

As per the recommendations of Curriculum Design and Development Cell (CDC) and department BOS, the following were changed in the syllabus for the academic year 2019-20. These changes were based on the feedbacks collected from the stakeholders including students, alumni, faculty members and industry experts.

1. Implementation of AICTE suggested curriculum for the batch of 2019-23 for UG and 2019-21 for PG
2. Inclusion of courses in different categories as defined by AICTE including HSMC (Humanities, Social Sciences including Management Courses), BSC (Basic Science Courses), ESC (Engineering Science Courses), PCC (Program Core Courses), PEC (Program Elective Courses), OEC (Open Elective Courses), PROJ (Project and Internship)
3. Major changes as given below in the curriculum to fit the above mentioned categories
 1. Computer Organization & Architecture (EC432)
 - Since microprocessor is part of the content, suggestion was to change the title to Computer Organization & Processor
 - Logic Unit may also be added to the existing arithmetic unit, so that complete ALU design concept can be given.
 - Suggestion was given to remove 8085 microprocessor and include interfacing devices as a new unit.
 - More concepts from system design perspective was expected to be included in Unit-V
 - To check the purpose of having the text book "The Pentium Microprocessor" by James Antonakos

2. Microprocessor & Microcontroller (EC534)
 - Suggestion was given to change the title to "Microcontroller based system designs"
 - Microprocessor and Interfacing by Gibson was asked to be checked for relevance. Recommendation was to include the book "8051 Microcontroller" by K.J.Ayala
3. VLSI Design (EC631)
 - A separate and full HDL (Verilog HDL) may be designed, helping students to gain proficiency in front-end designs.
 - Unit-4 may be split into two separate units; so that complete system design concepts may be given [Unit-4: Combinational systems Design and Unit-5: Sequential Systems Design]
4. Advanced Electronic System Design
 - Advanced ADCs like Σ - Δ , pipelined ADCs may be included
 - DACs need to be considered as a part of Data Acquisition Systems
 - Relevance of Design of PCB as Unit-V was suggested to be relooked.
5. VLSI Subsystems
 - Units: 1, 2, 3 and 4 overlap with EC631 contents.
 - Unit-5 in EC631 has to be changed, hence 80% of this contents can be merged there.
 - This course may be completely re-built on Unit-5 and re-named as "VLSI Testing"
6. Analog VLSI Design
 - Suggestion was to consider changing MOS Transistor to differential amplifiers in Unit-I if it is already covered in VLSI Design.
7. ASIC Design

Comment was that the complete subject deals with programmable ASIC (FPGA) but not on Analog and can be considered

cel

