



Department of Electronics & Communication Engineering

Minutes of Board of Studies meeting

Date: 17th July 2019

The first Board of Studies Meeting of the Department of Electronics and Communication engineering held on 17.07.2019 at HOD's chamber at 9:30 a.m.

At the onset the Chairman of BOS, Dr. K. Giri Babu, welcomed all the members and introduced internal BOS members to external BOS members. The meeting began with presentation of proposed curriculum by chair.

General Comments

1. Dr. K. Malakondaiah opined that more emphasis must be given towards emerging trends in fields such as VLSI and Artificial Intelligence, in the proposed curriculum.
2. Dr. P. V. Subbaiah Inquired about inclusion of online credit courses to strengthen self learning ability among students.
3. Dr. B. Anuradha inquired about quality of projects and internships. Moreover she opined that internships should not affect regular course work.
4. Dr. P. V. Subbaiah questioned about promotion and condonation procedures. Dr. P. Ammi Reddy explained the norms being followed at VVIT.
5. Dr. B. Anuradha recommended inclusion of a mandatory assignment with exercise problems from renowned text books to strengthen the problem solving ability of students.
6. Dr. K. Malakondaiah once again emphasized on improving skills in professional domains and branch specific areas to promote industry ready competency among learners.
7. The contents of Physics, chemistry and basic electrical engineering are to be selected to support core subjects in the particular discipline.
8. Members have discussed about possibilities of keeping only project work in the 8th semester without any course work.

Curriculum related Comments

1. Members expressed their opinion that Basic Electrical Engineering subject should cover DC electrical circuits extensively.
2. Dr. P.V. Subbaiah suggested conducting a slip test once in every 2 weeks in each subject.
3. Dr K.Giribabu suggested communicative English lab – 2 has to be included in 2nd semester in order to strengthen the professional skills of learners.
4. Dr B.Anuradha proposed to introduce induction motors in Basic Electrical Engineering.
5. Dr. P.V.Subbaiah advised confining to qualitative theory while discussing bandpass sampling topic in the subject signals and systems.
6. Dr. B.Anuradha advised to include information theory and coding as a separate subject in professional elective.
7. Members of BoS have unanimously agreed to introduce Digital Electronics instead of Digital System Design in 3rd Semester.
8. The syllabus of Electromagnetic waves and transmission lines is to be downsized as per the advice of Dr.P.V.Subbaiah.
9. Analog and Digital Communication theory and lab are proposed to be taught in 4th semester in contradiction to the advice of internal BOS.
10. After due deliberations, the BoS members agreed to split Network Analysis into two parts.
11. As per the suggestions given by Dr. K. Mala Kondaiah, the syllabus of Digital Electronics need to be framed from the basics of switching logic to sequential circuit analysis. This will ease the modeling styles using HDL with less time consumption.
12. Also it was suggested that, the subject on HDL programming should be completed in the second year even semester to create interest in the students to work on VLSI projects of digital domain.
13. Dr. K. Mala Kondaiah has also suggested that the subjects related to VLSI domain such as low power VLSI, Analog VLSI, and CPLD & FPGA need to be included as electives till the last semester of the course.
14. It should follow Basic VLSI Design in the third year first semester.
15. As far as the subject on microprocessors and microcontrollers is concerned, Dr. B.Anuradha has advised that a complete chapter on 8085 microprocessor is required which will be helpful to the students appearing for GATE.
16. In agreement with the views of Dr. K. Mala Kondaiah, it was decided to introduce two chapters on 8086 with more emphasis on interfacing.
17. Also it was suggested that, the remaining two chapters should be on 8051 microcontroller with its interfacing along with introduction to the advanced microcontrollers like ARM, PIC and so on.

18. In addition to the subject on embedded systems, BOS members suggested that the students have to concentrate more on Internet of Things. Accordingly, it is included as an elective subject along with fundamentals of Embedded Systems.
19. It was also advised to establish a separate laboratory on IoT and include it in the curriculum.
20. As part of software domain, Dr. P.V. Subbaiah has recommended the BOS members to place the subjects on C, Data Structures, PYTHON, and JAVA in sequence right from first year till the end of third year of the course (preferably complete them before third year first semester). These subjects will help them to compete in campus placements.
21. Dr. B.Anuradha advocated the chair of the meeting to include one open elective in semester V and shift Computer networks subject to semester VI.
22. She also emphasized more on Antenna based mini projects, and she commented that the students are working on software based projects which are related to either VLSI or Image Processing. In this way, the students may show interest on communication based projects.
23. BOS members have also come to the conclusion that a separate subject on Neural Networks and Fuzzy Logic should be included in the curriculum, as it is very much helpful in many domains.
24. Further, Dr. B.Anuradha has commented positively on English – 2 that was kept in third year even semester. She suggested the BOS members to include chapters on writing skills of research papers and also on ethical values.
25. Audio and Speech signal processing may be introduced in curriculum with more emphasis on speech enhancement and speech recognition to strengthen communication stream as advised by Dr. P.V. Subbaiah.
26. Dr. P.V. Subbaiah asked to include scripting (Perl recommended) in skilling.
27. All BoS members agreed to take up research oriented projects for M.Tech students.
28. Dr. K. Malakondaiah advised on implementing ARM based IoT projects along with embedded C.

The following resolutions are approved.

Agenda 1: To discuss and finalize the course structures of B.Tech of R19 (Autonomous) Regulations.

Resolution: Course Structure of B.Tech programme of R19 (Autonomous) Regulations is approved by BoS.

Encl: Annexure –I

Agenda 2: To discuss and finalize the course Contents of proposed Ist B.Tech of R19 (Autonomous) Regulations.

Resolution : After Consultations with CSE,S&H, EEE departments and as per the suggestions of BoS experts course contents of First Year B.Tech of R19 regulations are approved.

Encl: Annexure-II

Agenda 3: To discuss and finalize the course Contents of structures of proposed II,IIIandIVyear engineering programme of R19 (Autonomous) Regulations.

Resolution: As per the suggestions of BoS members, proposed II, III and IV year course contents of R19 regulations are finalized.

Encl: Annexure –III

Agenda 4: To finalize the broad contents of all the courses in M.Tech (VLSI&ES) and M.Tech(DECS) Programs.

Resolution: Broad Contents of all courses in proposed M.Tech (VLSI&ES) and M.Tech(DECS), R19 regulations, are finalized.

Encl: Annexure –IV

Agenda 5: To discuss the modalities of UG and PG evaluation.

Resolution: After due deliberations the internal evaluation pattern is finalized.

Agenda 6: Any other matter with the permission of the chair.

Resolutions : It is resolved to arrange for the preparation of syllabi of various courses in B.Tech and M.Tech Programs as per the finalized broad contents of the courses.

(BoS Chairman)
Dept. of ECE

ANNEXURE-1:Structure of B.Tech (ECE) program:

S.No.	Category	Suggested Breakup of Credits by AICTE (Total 160)	Breakup of Credits
1	Humanities and Social Sciences including Management courses	12	12
2	Basic Science courses	25	24
3	Engineering Science courses including workshop, drawing, basics of electrical/ mechanical/ computer etc	24	24
4	Professional core courses	48	55
5	Professional Elective courses relevant to chosen specialization/ branch	18	18
6	Open subjects – Electives from other technical and /or emerging subjects	18	12
7	Project work, seminar and internship in industry or elsewhere	15	15
8	Mandatory Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional Knowledge]	Non-Credit	Non-Credit
Total		160	160

ANNEXURE-2: Curriculum Structure- First Year

SEMESTER - I

S.No	Course Code	Name of the Course	L	T	P	C
1	BS01	Mathematics – 1	2	1	0	3
2	BS02	Applied Physics	3	0	0	3
3	HSM01	Communicative English-1	3	0	0	3
4	ES01	Programming for Problem Solving using C	3	0	0	3
5	ES02L	Comp. aided Engg Graphics	0	0	3	1.5
6	BS02L	Physics Lab	0	0	3	1.5
7	HSM01L	Communicative English-1Lab	0	0	3	1.5
8	ES01L	Programming for Problem Solving using C Lab	0	0	3	1.5
9	MC01	Indian Constitution	3	0	0	0
Total Credits						18.0

BS: 3+3+1.5 =7.5; HS: 3+1.5=4.5; ES: 3+1.5+1.5=6.0;

Total: 7.5+4.5+6.0=18.0

SEMESTER - II

S.No	Course Code	Name of the Course	L	T	P	C
1	BS03	Mathematics – 2	2	1	0	3
2	BS04	Mathematics -3	2	1	0	3
3	BS05	Engineering Chemistry	3	0	0	3
4	ES03	Basic Electrical Engineering	3	0	0	3
5	ES04	Data Structures	2	0	0	2
6	ES05L	Engineering Workshop	0	0	3	1.5
7	BS05L	Engineering Chemistry Lab	0	0	3	1.5
8	ES03L	Basic Electrical Engineering Lab	0	0	3	1.5
9	ES04L	Data Structures Lab	0	0	3	1.5
10	HSM02L	Communicative English-2Lab	0	0	3	1.5
11	MC	Environmental Science	0	0	0	0
Total Credits						21.5

BS: 3+3+3+1.5 = 10.5; HS: 1.5 =4.5, ES:3+2+1.5+1.5+1.5=9.5

Total:10.5+1.5+9.5 = 21.5

ANNEXURE-3: Curriculum Structure II,III and IV Years

SECOND YEAR

SEMESTER - III

S.No	Course Code	Name of the Course	L	T	P	C
1	BS06	Mathematics - 4	2	1	0	3
2	EC01	Electronic Devices & Circuits	3	0	2	3
3	EC02	Signals and Systems	2	1	0	3
4	EC03	Digital Electronics	3	0	2	3
5	ES06	Network Analysis & Transmission Lines	3	0	0	3
6	ES07	Python Programming	2	0	0	2
7	MC03	Essence of Indian Traditional Knowledge	2	0	0	0
8	EC01L	Electronic Devices & Circuits Lab	0	0	3	1.5
9	EC02L	Signals and Systems Lab	0	0	3	1.5
10	ES07L	Python Programming Lab	0	0	3	1.5
Total Credits						21.5

BS: 3; EC: 3+3+3+1.5+1.5=12; ES: 3+2+1.5=6.5

Total: 3+12+6.5 = 21.5

SEMESTER - IV

S.No	Course Code	Name of the Course	L	T	P	C
1	BS07	Random Variables & Stochastic Processes	3	0	0	3
2	EC04	Analog & Pulse Circuits	3	0	0	3
3	EC05	Electromagnetic Fields & Waves	3	0	0	3
4	EC06	Digital System Design with HDL	2	0	0	2
5	EC07	Analog & Digital Communications	3	0	0	3
6	HSM03	Managerial Economics & Financial Analysis	3	0	0	3
7	EC04L	Analog & Pulse Circuits Lab			3	1.5
8	EC07L	Analog & Digital Communications Lab			3	1.5
9	EC06L	Digital System Design with HDL Lab			3	1.5
Total Credits						21.5

BS: 3; EC: 3+3+3+2+1.5+1.5+1.5=15.5; HS: 3;

Total: 3+15.5+3 = 21.5

THIRD YEAR

SEMESTER - V

S.No	Course Code	Name of the Course	L	T	P	C
1	EC08	Linear & Digital ICs	3	0	0	3
2	EC09	Micro Processors &Micro Controllers	3	0	0	3
3	HSM04	Management Science	3	0	0	3
4	EC10	VLSI Design	3	0	0	3
5	ES08	Control Systems	2	0	0	2
6	OE01	Open Elective - 1	3	0	0	3
7	EC08L	Linear & Digital ICs Lab	0	0	3	1.5
8	EC09L	Micro Processors &Micro Controllers Lab	0	0	3	1.5
9	EC10L	VLSI Design Lab	0	0	3	1.5
Total Credits						21.5

EC:3+3+3+1.5+1.5+1.5=13.5; ES: 2; HS: 3; OE:3

Total: 13.5+2+3+3 = 21.5

SEMESTER - VI

S.No	Course Code	Name of the Course	L	T	P	C
1	EC11	Antennas & Wave Propagation	3	0	0	3
2	EC12	Digital Signal Processing	3	0	0	3
3	PE01	Elective - 1	3	0	0	3
4	PE02	Elective - 2	3	0	0	3
5	EC13	Computer Networks	3	0	0	3
6	EC12L	Digital Signal Processing Lab	0	0	3	1.5
7		Mini Project	0	0	6	3
Total Credits						19.5

EC: 3+3+3+1.5=10.5; PE: 3+3=6; Mini Project = 3

Total: 10.5+6+3 = 19.5

FOURTH YEAR

SEMESTER - VII

S.No	Course Code	Name of the Course	L	T	P	C
1	EC14	Microwave Engineering	2	0	0	2
2	PE03	Elective -3	3	0	0	3
3	PE04	Elective-4	3	0	0	3
4	PE05	Elective - 5	3	0	0	3
5	OE02	Open Elective-2	3	0	0	3
6	EC14L	Microwave Engineering Lab	0	0	3	1.5
7		Project Stage - 1			8	4
Total Credits						19.5

EC: 2+1.5=3.5; PE: 3+3+3=9; OE: 3; Project Stage 1= 4 Total: 3.5+9+3+4= 19.5

SEMESTER - VIII

S.No	Course Code	Name of the Course	L	T	P	C
1	PE06	Elective - 6	3	0	0	3
2	OE03	Open Elective - 3	3	0	0	3
3	OE04	Open Elective - 4	3	0	0	3
4		Project Stage - 2	0	0	16	8
Total Credits						17

PE: 3; OE: 3+3=6; Project Stage 2=8

Total: 3+6+8= 17

Professional Electives

Elective - 1	Elective - 2	Elective - 3	Elective - 4	Elective - 5	Elective - 6
Cellular & Mobile Communication	Optical Communications	Satellite Communications	Information Theory & Coding	Cognitive Radio	Radar Engineering
ASIC Design	Low Power VLSI	Analog IC Design	CPLD & FPGA	MEMS	Scripting Languages
Machine Learning	Embedded System Design & Robotics	Embedded & Real Time Operating Systems	Internet of Things	DSP Processors & Architectures	Deep Learning
Digital TV Engineering	Bio-Medical Electronics	Speech Signal Processing	Image & Video Processing	DSP Processors & Architectures	Multimedia Processing

Annexure – IV

COURSESTRUCTURE

M.Tech (VLSI & Embedded Systems)

I SEMESTER

S.No	Name of the Subject	L	P	C
1	1. VLSI Technology & Design	4	-	3
2	2. CMOS Analog IC Design	4	-	3
3	3. CPLD & FPGA Architectures	4	-	3
4	4. Microcontrollers for Embedded System Design	4	-	3
5	Elective I 1. Digital System Design 2. Soft Computing Techniques 3. Hardware Software Co-Design	4	-	3
6	Elective II 1. Network Security & Cryptography 2. CMOS Digital IC design 3. Advanced Operating Systems	4	-	3
7	Laboratory 1. VLSI Laboratory	-	3	2

TOTAL

20

II SEMESTER

S.No	Name of the Subject	L	P	C
1	1. Design for Testability	4	-	3
2	2. Embedded-C	4	-	3
3	3. Embedded Real Time Operating System	4	-	3
4	4. CMOS Mixed signal Circuit Design	4	-	3
5	Elective III 1. VLSI Signal Processing 2. Digital Signal Processors & Architectures 3. System on Chip Design	4	-	3
6	Elective IV 1. Low Power VLSI Design 2. Semiconductor Design and Testing 3. Micro Electro Mechanical System (MEMS) Design	4	-	3
7	Laboratory 1. Embedded Systems Laboratory	-	3	2

TOTAL

20

III SEMESTER

1	Seminar	-	-	2
2	Project	-	-	18
	Total	-	-	20

IV SEMESTER

1	Seminar	-	-	2
2	Project (Continued)	-	-	18
	Total	-	-	20

The project will be evaluated at the end of the IV Semester

Annexure – IV

COURSESTRUCTURE

M.Tech (Digital Electronics & Communication Systems)

I SEMESTER

S.No	Name of the Subject	L	P	C
1	1. Digital System Design	4	-	3
2	2. Digital Data Communication	4	-	3
3	3. Detection & Estimation Theory	4	-	3
4	4. Advanced Digital Signal Processing	4	-	3
5	Elective I 1. VLSI Technology & Design 2. Transform Techniques	4	-	3
6	Elective II 1. Statistical Signal Processing 2. Optical Communication Technology	4	-	3
7	Laboratory 1. Design & Simulation Lab	-	3	2
TOTAL				20

II SEMESTER

S.No	Name of the Subject	L	P	C
1	1. Image & Video Processing	4	-	3
2	2. Coding Theory & Applications	4	-	3
3	3. Wireless Communication & Networks	4	-	3
4	4. Embedded & Real Time Systems	4	-	3
5	Elective III 1. CMOS Analog & Digital IC Design 2. Advanced Computer Architecture	4	-	3
6	Elective IV 1. EMI / EMC 2. DSP Processors & Architectures	4	-	3
7	Laboratory 1. Advanced Communications Laboratory	-	3	2
TOTAL				20

III SEMESTER

1	Seminar	-	-	2
2	Project	-	-	18
	Total	-	-	20

IV SEMESTER

1	Seminar	-	-	2
2	Project (Continued)	-	-	18
	Total	-	-	20

The project will be evaluated at the end of the IV Semester