



Date: 10-08-2017

**Minutes of the meeting of Board of Studies for 5 – Year Integrated Engineering (M.Tech) – Information and Communication Technology of Dept. of Electronics and Communication Engineering, School of Engineering, CUK, Kalaburagi, held on 10<sup>th</sup> August, 2017 at CUK.**

**Venue:** Seminar Hall, Department of Electronics and Communication Engineering, School of Engineering, CUK.

**Members present:**

1. Prof. G. R. Naik, CUK, Chairman & Convener
2. Prof. Mohammed Zafar Ali Khan, IIT, Hyderabad, External Member
3. Prof. B. V. Dhandra, Adjunct Professor, Special Invitee
4. Dr. Layak Ali, CUK, Member
5. Dr. Vuddanti Sandeep, CUK, Dept. Of Electrical Engineering, Special Invitee
6. Dr. Janardhan Reddy, CUK, Dept. Of Mathematics, Member from allied Department
7. Dr. Harish Holla, CUK, Dept. Of Chemistry, Member from allied Department
8. Dr. Deepak Samuel, CUK, Dept. Of Physics, Special Invitee

**Prof. G. R. Naik**, Chairman & Convener welcomed the members and briefed the purpose of the meeting.

**Dr. Layak Ali**, Member, briefed the salient features of Information and Communication Technology (ICT) program and opened the discussion forum.

**Dr. V Sandeep**, Member and coordinator of Engineering, discussed the rules and regulation for Integrated Engineering.

The following points were discussed, reviewed, suggested and approved during meeting

1. The Board has referred, discussed and approved the rules and regulation for 5-year Integrated Engineering program (Annexure A).
2. The Board have approved the procurement list for purchase (Annexure B).
3. The Board has redrafted 9<sup>th</sup> semester structure and syllabus and approved the same for ICT 2013, 2014 and 2015 batches [Annexure C].
4. The Board discussed the issues of 1-6 scale grade for 2013, 2014 & 2015 Batches and resolved to recommend for 1-10 scale grade to be on par with other institutions.
5. The Board has approved the subject codes of all semester [Annexure D].
6. The Board has approved the complete 10 semesters structure and syllabus for ICT 2013, 2014 & 2015 batches [Annexure E].
7. The Board has drafted Structure & Syllabus for ICT 2016 onward batches [Annexure H].



8. Members have referred the UGC / AICTE guidelines of the Choice Based Credit System (CBCS) and recommended to follow the UGC /AICTE guidelines for evaluation mentioned therein.
9. Referred the schemes of some standard/successful Engineering programs in reputed Institutes / Universities
10. Members also reviewed and discussed thoroughly the credit scheme and syllabus for ICT program.
11. The Board has approved the modification of syllabus of Humanities & Engineering Science subjects for 2016 & 2017 Batches [Annexure F].
  - a. English Communication
  - b. Engineering Physics – I & II
  - c. Engineering Chemistry – I
  - d. The Constitution of India, Professional Ethics & Human Rights
  - e. Environmental Science
  - f. English Language Communication skills Lab
  - g. Engineering Physics Lab
  - h. Engineering Chemistry Lab
12. The Board has approved the Inclusion of **Tutorials** in Course Structure.
13. The Board has approved the list of electives – semester wise [Annexure G].
14. The Board has approved the process of Online – Course Registration for all semesters.
15. The Board has approved the department involvement of Online – Course MOOCS for additional credit enhancement by giving one or two credit self-study or project work to the students.
16. The Board has approved the proposal of Reputed Industry supported project works in 9<sup>th</sup> & 10<sup>th</sup> semesters.
17. The Board has approved the proposal of Institute (IIT/ NIT/ other reputed) supported project works in 9<sup>th</sup> & 10<sup>th</sup> semesters.
18. The Board has recommended for creating suitable facilities in the department in terms of equipment's, materials, and other infrastructure facilities to enable the students to carry out the projects effectively. No financial support in terms of TA/ DA to students for carrying out their projects.
19. The Board has recommended 10<sup>th</sup> Semester project work may be carried out with foreign universities under MOUs. In such cases credit system of CUK will be followed.
20. The Board has suggested to get more MOUs signed with other institutes / Industries, including foreign universities. These MOUs include the exchange of students / faculty.
21. The Board has suggested to appoint training & placement officer immediately.
22. The Board has approved the continues student internship in reputed organization. The mode of operation is that the students in addition to attend the internship activities, they should go through recorded course work with posting of questions. They may be allowed to submit the assignments online.
23. The Board has recommended that the integrated degree will be called as B.Tech., M.Tech. However, the degree certificate indicates that the candidate has successfully completed B.Tech. in Electronics and Communication Engineering and M.Tech. in Information and Communication Technology.





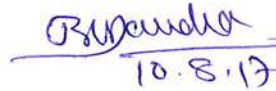
1. Prof. G. R. Naik, CUK,  
Chairman & Convener

  
10/8

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IIT, Hyderabad, External Member

  
10/8/2017

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10.8.17

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CUK, Dept. Of ECE Member

  
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# Academic Rules & Regulations

*Drafted by BOS (ICT, PEE, CST, CADMA, CT) and  
Submitted for Academic Council approval on 3<sup>rd</sup> Nov 2017*

**Integrated Engineering (M.Tech)  
Central University of Karnataka**



# Eligibility for Admission

- CUCET Marks
- JEE Mains- Qualified.

# Academic Duration

- Minimum Period → 5 years/10 semesters.
- Maximum Period → 10 years
- No exit option after 4<sup>th</sup> year.

# Academic Credits

- Total number of credits : 220.
- The students shall secure 220 credits **CGPA  $\geq 6$**  required for completion of the Integrated program and award of B.Tech & M.Tech degrees.
- Instructional days per semester: 90 days.



# Credit course definition :- L:T:P:C

- 1-Credit for 1-hour/week/semester for theory/lecture courses
- 1-credit for 2-hours/week/sem for laboratory/practical course or tutorials.
- Choice based credit system.

# Examinations

- Continuous Internal Assessment (40)
- Semester End Examination (60)

# Marks in subject

- One subject Total marks = CIA + Sem end marks(40+60=100 marks)
- Minimum 40% of marks in sem end exam should be scored  
(i.e 24 marks).
- passing marks in a subject = 40 marks.



# Subject course classification

- Foundation courses.
- Core courses.
- Stream elective courses.
- Open elective courses.
- Laboratories.
- Project work.
- Internships.
- Mandatory courses(Audit)- Non credit.

# Course registration

- Online registration only after obtaining written approval from faculty/head.
- Add/Drop courses: within a period of 15 days from the beginning of the current semester.

# Attendance requirement

- Minimum 75% attendance in each course to appear for the semester end examination.
- Shortage of attendance below 70% in any subject shall no case be condoned.
- Student who have not attended end semester examination (absent) and failed due to any reason shall be considered as backlog.
- Introduction of Grade for attendance shortage : X
- Method of attendance consideration  
Attendance in aggregate



# Promotion criteria for next semester

## Promotion rules:

Sl.No	promotion	Condition to fulfilled
1	1 <sup>st</sup> year to 2 <sup>nd</sup> year	Musts have secured atleast 50% credits upto 1 <sup>st</sup> year (2 sem) from all the relevant & supplementary examinations, whether the student takes those examinations/not.
2	2 <sup>nd</sup> year to 3 <sup>rd</sup> year	i) Must have secured atleast 60% credits upto 2 <sup>nd</sup> year(4 sem) from all the relevant & supplementary examinations, whether the student takes those examinations/not. and ii) student must have cleared 1 <sup>st</sup> year backlogs.
3	3 <sup>rd</sup> year to 4 <sup>th</sup> year	i) Student must have secure atleast 70% credits upto 3 <sup>rd</sup> year (6 sem) from all the relevant & supplementary examinations, whether the student takes those examinations/not. And ii) Must have cleared all 2 <sup>nd</sup> year backlogs
4	4 <sup>th</sup> year to 5 <sup>th</sup> year	i) Must have secured minimum of 6 CGPA and must clear all backlog of 4 <sup>th</sup> years.

- A student who does not clear all subjects in first 4 years & less than 6 CGPA → force full exit due to their poor academic performance, not eligible to continue 5<sup>th</sup> year (M.Tech).
- A student is detained due to lack of credits shall be promoted to the next academic year only after acquiring the required Academic credits and/or Eligibility.

# Grading system and Absolute

- 10 points scale & absolute.



# Award of degrees

## ➤ **First class with distinction:**

- i) student with final CGPA  $\geq 8$ . and
- ii) should have passed all the subject in first appearance.

## **First Class:**

- iv) student with final CGPA is  $7 \leq \text{CGPA} < 8$  shall be placed in 1<sup>st</sup> class.

## **Second Class:**

- v) student with final CGPA is  $6 \leq \text{CGPA} < 7$  shall be placed in 2<sup>nd</sup> class.

## **Pass Class:**

- vi) student with final CGPA is  $5.5 \leq \text{CGPA} < 6$  shall be placed in pass class.

## **Ranking & Medal:**

- viii) student having 1<sup>st</sup> class with distinction only will be eligible for award of university rank & gold medal.

# Discontinuation from the program

- A student who have not obtained the eligibility for 3<sup>rd</sup> semester/ 5<sup>th</sup> semester/7<sup>th</sup> semester/9<sup>th</sup> semester after a period of Two (2) academic years shall discontinue the course.

# Project Evaluation - Integrated Engineering

- UG project (8<sup>th</sup> semester) carries a total of 08 credits.
- PG project (Part I - 9<sup>th</sup> semester) carries a total of 12 credits.
- PG project (Part II - 10<sup>th</sup> semester) carries a total of 18 credits.

The different components of project evaluation and the weights assigned are depicted below:

Sub-component	Weight
Supervisor's assessment	40 %
Project Report / Thesis (to be assessed by evaluation board)	20 %
Evaluation Board's assessment through Viva	40 %

- At the completion of a project, the student should submit a project report / thesis which will be evaluated by duly appointed examiner(s). The evaluation will be based on the report and a viva-voce examination on the project.
- The project reports of Integrated / Dual Degree engineering students who have not completed their course work will be evaluated in that semester itself and the result sent, in confidential, to the Controller of Examinations. The result of the project work evaluation will be declared by the Controller of Examinations only after the successful completion of the course requirements.
- The Head of the Department would constitute a project evaluation board for the purpose of assessment, include an external expert.
- The student is required to give a seminar on the project work done. The evaluation board would conduct the viva-voce. The Board would decide the relative weights of the different aspects of the viva-voce and decide the grades to be awarded to the students. Dates for conducting the seminar and the viva-voce, to be held within ten days after the end-semester examination, would be announced in the academic calendar.

- Student should take up Projects as part of curriculum and as requirement for awarding degree, wherein under the guidance of a faculty member. He/she is required to do some innovative work with the application of knowledge gained while undergoing various courses in the earlier years. The student is expected to do a survey of literature in the subject, workout a project plan and carry it out through experimentation and/ or modeling / computation. Through the project work the student has to exhibit skills for both analysis and synthesis.
- The PG project consists of two stages (Part I & II - 9<sup>th</sup>& 10<sup>th</sup> semester), spread over a nine month duration, normally starting from the mid semester in the 9<sup>th</sup>semester and ending with the summer after the 10<sup>th</sup>semester.
- The PG projects (Part I & II - 9<sup>th</sup>& 10<sup>th</sup> semester) are essentially research and development projects, where a student trains him/herself, under the guidance of supervisor/s, in indepth analysis of an engineering problem and attempts synthesis of a solution. Literature survey, problem analysis and problem definition, extensive experimental/ modeling work, and analysis of results typically form various components of the project work. The M.Tech. Dissertation Project may be carried out on Industry supported problems.

## Backlog / Supplementary Examinations

- In ODD semester (July – Dec) – only odd semester examinations
- In EVEN semester (Jan – May) – both odd & even semester examinations



Date: 10-08-2017

### Annexure –B

(Detailed Hardware and Software requirement for ICT program)

**Ref: Minutes of BoS meeting held on 10<sup>th</sup> August, 2017 at CUK, Kalaburagi.**

Sl. No	Items
1.	Computers – 30 (thirty) Specification: 1. Processor: I5 or I7 with 2-3GHz 2. RAM - 8GB 3. HDD – 500GB 4. Monitor – 15 inch 5. Latest Windows OS
2.	Software's 1. Agilent Simulation Environment
3.	Specific Lab hardware 1. NI PXI Chassis and modules - 5 2. DSP Processors - TMS320 (25) 3. Microcontroller Experimental boards - (25) 4. Oscilloscopes - (20) 5. Multimeter - (25) 6. IoT motes and peripherals 7. Robotics Experimental boards - (5) 8. Automation Kits - (5) 9. Network Analysers: handheld (12GHz) – (5)
4.	Laboratory Furniture 1. Computer Table -- 40 2. Computer Chairs -- 40 3. Experiment Tables (9 labs each with 5 tables ) – 45 4. Seminar hall chairs – 50
5.	ICT tools 1. LCD projectors – (5) 2. OHP projectors – (5) 3. Network Printer -2 4. Laser Printer Heavy duty 5. LCD TV - 1

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## 2013 BATCH – ALL SEMESTERS COURSE TITLES

### Details of Credits

Branch : Information and Communication Technology

Semester	Credits
1 <sup>st</sup>	20
2 <sup>nd</sup>	22
3 <sup>rd</sup>	19
4 <sup>th</sup>	24
5 <sup>th</sup>	21
6 <sup>th</sup>	23
7 <sup>th</sup>	21
8 <sup>th</sup>	30
<b>TOTAL CREDITS</b>	<b>180</b>



**1<sup>st</sup> Semester**

<b>Paper Code</b>	<b>Paper Name</b>	<b>Credits</b>
ESL101	Engineering Mathematics - I	4
ESL102	Engineering Physics - I	4
ESL103	Engineering Chemistry - I	4
NEL104	English Communication	4
ESP105	Engineering Graphics Lab	2
ESP106	Engineering Workshop	2
	<b>Total Credits</b>	<b>20</b>

**2<sup>nd</sup> Semester**

<b>Paper Code</b>	<b>Paper Name</b>	<b>Credits</b>
ESL201	Engineering Mathematics – II	4
ESL202	Engineering Physics - II	4
ESL203	Engineering Chemistry - II	4
ESL204	Engineering Sciences	4
NEL205	Business Economics	3
ESP206	Physics Lab	1.5
ESP207	Chemistry Lab	1.5
	<b>Total Credits</b>	<b>22</b>

**3<sup>rd</sup>Semester**

<b>Paper code</b>	<b>Subject</b>	<b>Credits</b>
ESL301	Engineering Mathematics - III	4
ESL302	Analog and Digital Circuits	3
ESL303	Engineering Thermodynamics	3
ESL304	Solid and Fluid Mechanics	3
ESL305	Elements of Structural Analysis and Design	3
ESL306	Data Structure and Algorithms	3
	<b>Total Credits</b>	<b>19</b>

**4<sup>th</sup>Semester**

<b>Paper code</b>	<b>Subject</b>	<b>Credits</b>
ESL401	Computer Organization and Architecture	3
ESL402	Control Systems and Automation	3
ESL403	Energy Conversion Technologies	3
ESL404	Engineering Materials	3
ESL405	Measurement and Instrumentation	3
ESL406	Manufacturing Technologies	3
ESL407	Signals and Systems	3
ESP408	Measurement and Instrumentation Lab	1.5
ESP307	Analog and Digital Circuits Lab	1.5
	<b>Total Credits</b>	<b>24</b>

## Integrated M.Tech - Information and Communication Technology

### Semester 5

Sl. No.	Paper Code	Paper Name	Paper Type	Credits
1.	ECL501	Digital Signal Processing	Core Subject	03
2.	ECL502	Microprocessor and Microcontroller	Core Subject	03
3.	ECL503	Linear Integrated Circuits and Applications	Core Subject	03
4.	ECL504	Electro Magnetic Field Theory	Core Subject	03
5.	CSL503	Operating Systems	Stream Elective	03
6.	EEL503 OEL561	Power Systems – I / Entrepreneurial Development	Open Elective	03
7.	ECP571	Digital Signal Processing Lab	Laboratory	1.5
8.	ECP572	Microprocessor and Microcontroller Lab	Laboratory	1.5
			<b>Total Credits</b>	<b>21</b>

### Semester 6

Sl. No.	Paper Code	Paper Name	Paper Type	Credits
1.	ECL601	Communication Engineering	Core Subject	03
2.	ECL602	Computer Networks	Core Subject	03
3.	ECL603	Digital design using HDL	Core Subject	03
4.	ECL603	Antennas and Wave Propagation	Core Subject	03
5.	CSL601	Principles of Programming Languages	Stream Elective	03
6.	NEC682	Personality Development	Open Elective	03
7.	ECP671	Communication Lab	Laboratory	1.5
8.	ECP672	Digital Design Lab	Laboratory	1.5
9.	SIP699	Summer Internship - I	Internship	02
			<b>Total Credits</b>	<b>23</b>

## Integrated M.Tech - Information and Communication Technology

### Semester 7

Sl. No.	Paper Code	Paper Name	Paper Type	Credits
1.	ECL701	Microwave Engineering and RADAR	Core Subject	03
2.	ECL702	VLSI Design	Core Subject	03
3.	ECL703	Digital Image Processing	Core Subject	03
4.	ECL741	Information Theory and Coding	Stream Elective	03
5.	ECL742	Embedded Systems	Stream Elective	03
6.	CSL741 OEL762 OEL763	Cloud Computing / Basics of Geoinformatics / Understanding Human Behaviour	Open Elective	03
7.	ECP771	VLSI Design Lab	Laboratory	1.5
8.	ESP409	Signals and Systems Lab	Laboratory	1.5
			<b>Total Credits</b>	<b>21</b>

### Semester 8

Sl. No.	Paper Code	Paper Name	Paper Type	Credits
1.	ECL801	Wireless and Mobile Communication	Core Subject	03
2.	ECL802	Real Time Embedded Systems	Core Subject	03
3.	ECL841	Advanced Circuit Design	Stream Elective	03
4.	OEL861 OEL862 OEL863	Social Innovation and Social Enterprises / Employee Ability Skills / Intellectual Property (WPO online)	Open Elective	03
5.	NEL105	Indian Constitution	Open Elective	03
6.	ECP871	Advanced Communication Engineering Lab	Laboratory	1.5
7.	ECP872	Embedded Systems Lab	Laboratory	1.5
8.	ESP308	Strength of Materials Lab	Laboratory	1.5
9.	NEC781	English Communication Skills Lab	Laboratory	02
10.	ECP772	Antenna & Microwave Engineering Lab	Laboratory	1.5
11.	BTP888	B.Tech Project Work	Project	05
12.	SIP899	Summer Internship – II	Internship	02
			<b>Total Credits</b>	<b>30</b>

**COURSE STRUCTURE OF  
INTEGRATED ENGINEERING PROGRAM (M.Tech)  
INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**(For 2013, 2014 & 2015 batch)**

*Revised course structure by BOS on 10<sup>th</sup> August 2017 and*

*Submitted for Academic Council approval on 3<sup>rd</sup> Nov 2017*



CENTRAL UNIVERSITY OF KARNATAKA

**SCHOOL OF ENGINEERING  
CENTRAL UNIVERSITY OF KARNATAKA  
KADAGANCHI, GULBARGA - 585367**

# Curriculum

## Integrated Engineering – Information and Communication Technology

### 9. Programs' Curriculum

#### 1<sup>st</sup> Semester

Subject	Lecture	Tutorial	Practical	Credits (23)
Engineering Mathematics - 1	3	1	0	4
Engineering Physics - 1	3	1	0	4
Engineering Chemistry	3	1	0	4
Inter disciplinary Engineering	2	0	0	2
Environmental Science and Technology	3	0	0	3
English Communication	3	0	0	3
Engineering Graphics Lab	0	0	3	1.5
Engineering Workshop	0	0	3	1.5

#### 2<sup>nd</sup> Semester

Subject	Lecture	Tutorial	Practical	Credits (24)
Engineering Mathematics - 2	3	0	0	3
Engineering Physics - 2	3	0	0	3
Biology for Engineers	2	0	0	2
Engineer in Society, Country and Profession	3	0	0	3
Introduction to Computer Programming	2	0	2	3
Elements of Electrical and Electronics Engineering	2	0	0	2
Elements of Civil Engineering	2	0	0	2
Elements of Engineering Mechanics	3	0	0	3
Physics Lab	0	0	3	1.5
Chemistry Lab	0	0	3	1.5

### 3<sup>rd</sup> Semester

<b>Subject</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credits (24)</b>
Engineering Mathematics - 3	3	1	0	4
Engineering Materials	3	0	0	3
Data Structure and Algorithms	3	0	0	3
Solid and Fluid Mechanics	3	0	0	3
Control Systems	3	0	0	3
Analog and Digital Circuits	3	0	0	3
Language (Kannada /Hindi)	2	0	0	2
Strength of Materials Lab	0	0	3	1.5
Analog and Digital Circuits Lab	0	0	3	1.5

### 4<sup>th</sup> Semester

<b>Subject</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credits (24)</b>
Elements of Structural Analysis	3	0	0	3
Computer Organization and Architecture	3	0	0	3
Energy Conversion Technologies	3	0	0	3
Manufacturing Technologies	3	0	0	3
Measurement and Instrumentation	3	0	0	3
Signals and Systems	3	0	0	3
Humanities / Management - 1	3	0	0	3
Signals Systems lab	1	0	3	1.5
Measurement and Instrumentation Lab	1	0	3	1.5

Note: 1<sup>st</sup> and 2<sup>nd</sup> years, common to all

## Integrated M.Tech in Information and Communication Technology - Semester 5 to 10

		Semester 5	22 credits	
		<i>Subject</i>	<i>Credits</i>	
		<b>Engineering Component</b>		
1	Core subject	Digital Signal Processing	3	12
2	Core subject	Microprocessors and Microcontrollers	3	
3	Core subject	Linear Integrated Circuits and Applications	3	
4	Core subject	Electromagnetic Field Theory	3	
5	Stream Elective	Operating Systems	3	3
6	Open Elective		3	3
7	Engg Laboratory	Digital Signal Processing Lab	1.5	3
8	Engg Laboratory	Microprocessor & Microcontroller Lab	1.5	
		<b>Non Engineering Component</b>		
9	Language	Introduction to Foreign Languages	1	
		<b>Total Credits in semester 5</b>		<b>22</b>
		Semester 6	23 credits	
		<i>Subject</i>	<i>Credits</i>	
		<b>Engineering Component</b>		
1	Core subject	Digital design using HDL	3	9
2	Core subject	Communication Engineering	3	
3	Core subject	Antennas and Wave propagation	3	
4	Stream elective	Computer Networks	3	3
5	Open Elective		3	3
6	Engg Laboratory	Communication Lab	1.5	3
7	Engg Laboratory	Digital Design Lab	1.5	
		<b>Non Engineering Component</b>		
8		Humanities / Social Sciences	3	
	Internship	Summer Internship - I	2	
		<b>Total Credits in semester 6</b>		<b>23</b>



		<b>Semester 7</b>	<b>23 credits</b>	
		<b>Engineering Component</b>		
		<b>Subject</b>	<b>Credits</b>	
1	Core subject	VLSI Design	3	9
2	Core subject	Digital Image Processing	3	
3	Core subject	Microwave Engineering and RADAR	3	
4	Stream elective	Information Theory and Coding	3	6
5	Stream elective	Embedded Systems / Cloud Computing	3	
6	Open Elective		3	3
7	Engg Laboratory	VLSI Design Lab	1.5	3
8	Engg Laboratory	Antenna & Microwave Engineering Lab	1.5	
		<b>Non Engineering Component</b>		
9		English Communication skills lab	2	
		<b>Total Credits in semester 7</b>		<b>23</b>
		<b>Semester 8</b>	<b>22 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
1	Core subject	Wireless and Mobile Communication	3	6
2	Core subject	Real Time Embedded Systems	3	
3	Stream elective	Advanced Circuit Design	3	3
4	Open Elective		3	3
5	Engg Laboratory	Advanced Communication Engineering Lab	1.5	3
6	Engg Laboratory	Embedded Systems Lab	1.5	
7	Project	UG Project	5	
		<b>Non Engineering Component</b>		<b>0</b>
8	Internship	Summer Internship - II	2	
		<b>Total Credits in semester 8</b>		<b>22</b>

		<b>Semester 9</b>	<b>18 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
3	Stream elective	Optical Communication Engineering / Satellite Communication Engineering	3	
5	Engg Laboratory	Automation and Robotics Lab	3	
6	Project	M.Tech Project – part I	12	
<b>Total Credits in semester 9</b>			<b>18</b>	
		<b>Semester 10</b>	<b>18 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
1	Project	M.Tech Project – part II	18	
<b>Total Credits in semester 10</b>			<b>18</b>	

**COURSE STRUCTURE OF  
INTEGRATED ENGINEERING PROGRAM (M.Tech)**

—

**INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**(For 2016 batch onwards)**

*Revised course structure by BOS on 10<sup>th</sup> August 2017 and  
Submitted for Academic Council approval on 3<sup>rd</sup> Nov 2017*



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**SCHOOL OF ENGINEERING  
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KADAGANCHI, GULBARGA - 585367**

# Curriculum

## Integrated Engineering – Information and Communication Technology

### 1<sup>st</sup> Semester

Subject	Lecture	Tutorial	Practical	Credits (23)
Engineering Mathematics - 1	3	1	0	4
Engineering Physics - 1	3	1	0	4
Engineering Chemistry	4	0	0	4
Introduction to Engineering	2	0	0	2
Environmental Science and Technology	3	0	0	3
English Communication	3	0	0	3
Engineering Graphics Lab	0	0	3	1.5
Engineering Workshop	0	0	3	1.5

### 2<sup>nd</sup> Semester

Subject	Lecture (Hr)	Tutorial	Practical (Hr)	Credits (24)
Engineering Mathematics - 2	3	0	0	3
Engineering Physics - 2	3	0	0	3
Biology for Engineers	2	0	0	2
Programming and Data Structures	2	0	0	2
Elements of Electrical and Electronics Engineering	3	0	0	3
Elements of Civil Engineering	3	0	0	3
Elements of Engineering Mechanics	3	0	0	3
Programming and Data Structures Lab	0	0	4	2
Physics Lab	0	0	3	1.5
Chemistry Lab	0	0	3	1.5

### 3<sup>rd</sup> Semester

Subject	Lecture	Tutorial	Practical	Credits (23)
Engineering Mathematics - 3	3	1	0	4
Introduction to ICT	3	0	0	3
Analog Electronic Circuits	3	0	0	3
Signals and Systems	3	0	0	3
Digital Electronic Circuits	3	0	0	3
Language (Kannada /Hindi)	2	0	0	2
Analog Electronic Circuits Lab	0	0	3	1.5
Digital Electronic Circuits Lab	0	0	3	1.5
Signals Systems lab	1	0	3	2

### 4<sup>th</sup> Semester

Subject	Lecture	Tutorial	Practical	Credits (24)
Engineering Mathematics - 4	3	0	0	3
Introduction to Python Programming Language	3	0	0	3
Energy Conversion Technologies	3	0	0	3
Numerical Techniques & Simulation	3	0	0	3
Measurement and Instrumentation	3	0	0	3
Control Systems	3	0	0	3
Humanities / Management - 1	3	0	0	3
Control Systems Lab	1	0	3	1.5
Measurement and Instrumentation Lab	1	0	3	1.5

## Integrated M.Tech in Information and Communication Technology - Semester 5 to 10

		Semester 5	24 credits	
		<i>Subject</i>	<i>Credits</i>	
		<b>Engineering Component</b>		
1	Core subject	Digital Signal Processing	4	
2	Core subject	Real Time Operating System	3	
3	Core subject	Probability and Random Process	3	
4	Core subject	Digital Communication Engineering	3	
5	Stream Elective	Object orientated Analysis and Design / Big data Analytics	3	
6	Open Elective	Introduction to Foreign Languages	3	
7	Engg Laboratory	Digital Signal Processing Lab (Communication through DSP)	2	
8	Engg Laboratory	Real Time Operating System Lab	2	
		<b>Total Credits in semester 5</b>	<b>24</b>	
		<b>Semester 6</b>	<b>19 credits</b>	
		<i>Subject</i>	<i>Credits</i>	
		<b>Engineering Component</b>		
1	Core subject	Digital design using HDL	3	
2	Core subject	Computer Networks	3	
3	Core subject	Information Theory and Coding	3	
4	Stream elective	Cryptography / Antennas and Wave propagation	3	
5	Open Elective	Humanities / Social Sciences	3	
6	Engg Laboratory	Networks Lab	2	
7	Engg Laboratory	Digital Design using HDL Lab	2	
	Internship	Summer Internship - I		
		<b>Total Credits in semester 6</b>	<b>19</b>	

		<b>Semester 7</b>	<b>23 credits</b>	
		<b>Engineering Component</b>		
		<b>Subject</b>	<b>Credits</b>	
1	Core subject	Advance Coding Theory	4	
2	Core subject	Digital Image Processing	3	
3	Core subject	Embedded Systems	3	
4	Core subject	Artificial intelligence and Expert Systems	3	
5	Stream elective	Microwave Engineering and RADAR / Cloud Computing	3	
6	Open Elective	MOOCS	3	
7	Engg Laboratory	Embedded Systems Lab	2	
9		English Communication skills lab	2	
<b>Total Credits in semester 7</b>			<b>23</b>	
		<b>Semester 8</b>	<b>22 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
1	Core subject	Optical Communication Engineering	3	6
2	Core subject	Internet of Things and Applications	3	
3	Stream elective	Satellite Communication / ADHoc and Sensor Networks	3	3
4	Open Elective		3	3
5	Engg Laboratory	Internet of Things Lab	2	3
7	Project	UG Project	8	
8	Internship	Summer Internship - II		
<b>Total Credits in semester 8</b>			<b>22</b>	

		<b>Semester 9</b>	<b>18 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
3	Stream elective	Wireless Communication Engineering / Industrial Automation	3	
5	Engg Laboratory	Automation and Robotics Lab	3	
6	Project	M.Tech Project – part I	12	
		<b>Non Engineering Component</b>	0	
		<b>Total Credits in semester 9</b>	<b>18</b>	
		<b>Semester 10</b>	<b>18 credits</b>	
		<b>Subject</b>	<b>Credits</b>	
		<b>Engineering Component</b>		
1	Project	M.Tech Project – part II	18	
		<b>Total Credits in semester 10</b>	<b>18</b>	



Date: 28-10-2020

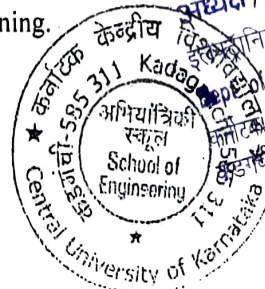
Minutes of the online meeting of Board of Studies (BOS), Department of Electronics and Communication Engineering, School of Engineering, Central University of Karnataka, Kalaburagi held on 28<sup>th</sup> October 2020 on Google Meet platform.

The Board of Studies (BOS) members of Department of ECE are as follows:

1. Prof. Samrat L. Sabat, Professor, Center of Advanced Studies in Electronic Science and Technology (CASEST), University of Hyderabad, Hyderabad, India.
2. Dr. D. N. Gaonkar, Associate Professor, EEE Department, National Institute of Technology, Suratkal, Karnataka, India.
3. Dr. Deepak Samuel, Head & Dean, School of Physical Sciences, Central University of Karnataka, Kalaburagi-585367, India.
4. Dr. Ravindra S. Hegadi, Head & Dean, School of Computer Science, Central University of Karnataka, Kalaburagi-585367, India.
5. Dr. V. Sandeep, Assistant Professor, Head, EE Dept., National Institute of Technology, Tadepalligudem, Andhrapradesh-534102, India.
6. Dr. Veeresh G. Kasabegoudar, Associate Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
7. Dr. Paramesha, Associate Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
8. Dr. Layak Ali, Assistant Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
9. Dr. Santosha Kumar A, Assistant Professor, Electrical Engineering Dept., Central University of Karnataka, Kalaburagi-585367, India.

The following points have been recommended by the BOS members:

1. The committee suggested practicing blended learning techniques including problem solving based on given task by involving our students (a group of 2 to 3 students) in interdisciplinary projects/courses offered in other allied schools of Central University of Karnataka.
2. The committee suggested organizing every month at least one talk from Industry expert and one talk from eminent academician.
3. The committee suggested encouraging the students to go for 3D prototypes. It is also suggested to have skill oriented mini-projects. Informed the department to adopt mentoring system to assist the students in teaching-learning process.
4. The committee suggested encouraging the internship activities, industry interaction, and project based learning.



Department of Electronics and Communication Engineering  
Kadaganchi, Kalaburagi-585367  
Central University of Karnataka



5. The committee strongly urged to go far increasing the strength of regular faculty members. Besides this advised to focus on placement activities.
6. The committee appreciated and accepted vision/mission/POs/PEOs/PSOs statements prepared by the ECE Department in line with NBA guidelines. HOD brought to the notice of honorable members that these statements will be further taken to all stake holders (internal and external) for their final approval.
7. The committee accepted UG curriculum with above guidelines. However suggested to make necessary changes in the Ph. D curriculum. Based on the suggestions of the committee the following corrections have been made in the Ph. D curriculum.

• Proposed Curriculum

Sl. No.	Course Code	T/R/P/S	Course Title	Credits
1	DECETCC1001	T	Research Methodology	4
2	DECETCC1002	T	Research Specific Course	4
3	DECESCC1003	S	Research Topic Specific Literature Review	2
4	DECEPCC1004	P	Software Training/ Laboratory Training on Research Specific Topic	2
Total				12

• Modified Curriculum

Sl. No.	Course Code	T/R/P/S	Course Title	Credits
1	DECETCC1001	T	Research Methodology	4
2	DECETCC1002	T	Course Work	4
3	DECEPCC1003	T	Research & Publication Ethics	3
4	DECESCC1004	S/P	Seminar/Lab work*	3
Total				14

\* As suggested by research supervisor.

8. The committee was informed that due to ongoing pandemic Covid-19 the practical courses of current semester which cannot be handled online may be swapped with next semester theory courses.
9. HOD informed the honorable BOS members that the school board will be constituted as per ordinance 30 of Central University of Karnataka.



**अध्यक्ष / HEAD**  
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Dept. of Electronic & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय / Central University of Karnataka  
कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585 367

**CENTRAL UNIVERSITY  
OF KARNATAKA**

(Established by an Act of the Parliament in 2009)



**Department of ECE  
School of Engineering**  
Kadaganchi, Aland Road,  
Gulbarga District- 585367

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I. Prof. Samrat L. Sabat, Professor,  
Center of Advanced Studies in  
Electronic Science and Technology  
(CASEST), University of Hyderabad,  
Hyderabad, India.

Dr. D. N. Gaonkar, Associate Professor,  
BEE Department, National Institute of  
Technology, Suratkal, Karnataka, India.

Dr. Deepak Samuel, Dean, School of  
Physical Sciences, Central University of  
Karnataka, Kalaburagi-585367, India.

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Dr. Ravindra S. Hegadi, Dean, School  
of Computer Science, Central  
University of Karnataka, Kalaburagi-  
585367, India.

Dr. V. Sandeep, Assistant Professor,  
Head, EE Dept., National Institute of  
Technology, Tadepalligudem,  
Andhrapradesh-534102, India

Dr. Veeresh G. Kasabegoudar,  
Associate Professor, Department of  
ECE, Central University of Karnataka,  
Kalaburagi-585367, India.

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Dr. Paramesha, Associate Professor,  
Department of ECE, Central University  
of Karnataka, Kalaburagi-585367, India.

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Professor, Electrical Engineering Dept.,  
Central University of Karnataka,  
Kalaburagi-585367, India.

Dr. Layak Ali, Assistant Professor,  
Department of ECE, Central University  
of Karnataka, Kalaburagi-585367, India.

(Email responses will be considered as approval for the minutes by the corresponding BOS members, Department of Electronics and Communication Engineering Department, School of Engineering, Central University of Karnataka)



12

**अध्यक्ष / HEAD**

इलेक्ट्रॉनिक्स और संचार अभियंत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय, Central University of Karnataka  
कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585367



Date: 10-06-2022

Minutes of the online meeting of Board of Studies (BOS), Department of Electronics and Communication Engineering, School of Engineering, Central University of Karnataka, Kalaburagi held on 10<sup>th</sup> June 2022 on Google Meet platform.

The Board of Studies (BOS) members of Department of ECE are as follows:

1. Prof. Samrat L. Sabat, Professor, Center of Advanced Studies in Electronic Science and Technology (CASEST), University of Hyderabad, Hyderabad, India.
2. Dr. D. N. Gaonkar, Associate Professor, EEE Department, National Institute of Technology, Suratkal, Karnataka, India.
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8. Dr. Layak Ali, Assistant Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
9. Dr. Santosha Kumar A., Assistant Professor, Department of EE, Central University of Karnataka, Kalaburagi-585367, India.

The third BOS-ECE meeting was commenced with welcome address by the Dean SOE. The board approved the minutes of the 1<sup>st</sup> and 2<sup>nd</sup> BOS meetings and the following points have been resolved in the 3<sup>rd</sup> meeting by the BOS members:

**Item No. 1:** Approval of syllabus contents of 5<sup>th</sup> to 8<sup>th</sup> Semester B.Tech ECE

Dean, School of Engineering (SOE) gave information about the syllabus contents prepared for the courses approved in the earlier meetings. HOD, ECE clarified the points raised by honorable members of the BOS committee. All members accepted and approved the contents with following suggestions.

- Prerequisites of the courses must be linked to earlier subjects.
- Should be ensured that the students learn Python language in their 4 years of study.
- The depth of the syllabus contents should justify the assigned credits of the course.

**Item No. 2:** Removal of NPTEL course for the 8<sup>th</sup> semester

Dean SOE gave information and relevance about the point. All members agreed to remove the NPTEL course for the 8<sup>th</sup> semester and the credits of the same may be assigned to the project work. It was suggested that the project weightage must evaluated as per the credits.

**Item No. 3:** Course codes for IIT-H Fractal Syllabus (2018 & 2019 Batches).

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Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय / Central University of Karnataka  
कडगंचि, कडगुर्गी / Kadaganchi, Kalaburagi-585367



Dean SOE gave information and relevance about the point. All members accepted the course codes for IIT-H fractal syllabus developed by the department for the purpose of printing marks cards of 2018 and 2019 batches of Engineering.

**Item No. 4:** Information regarding procurement of lab equipments under HEFA (point for reporting purpose only).

Dean SOE gave information about the latest developments in the procurement of laboratory facilities under HEFA.

**Item No. 5:** Approval for updated entrance exam syllabus of CUCET for M.Tech-ERTS admission.

Dr. Layak Ali explained the purpose of changing the PGQP53, M. Tech-ERTS entrance exam syllabus for CUET exam. The present syllabus expects the knowledge of the students which is supposed to be tested after the M.Tech-ERTS course. Hence the present syllabus tests the student which is required to study the above said M.Tech course. All members accepted the proposed syllabus.

**Item No. 6:** Inclusion of GATE qualified students for admission to M.Tech courses of SOE.

It was accepted by all members of the board. Further, all external members suggested going for CCMT (Centralized Counseling For M.Tech./M.Arch./M.Plan Admissions) for quality admissions. It was strongly advised to go for AICTE recognition for receiving all kinds of benefits to students and faculty members.

**Item No. 7:** Change of branch (ECE department to other branches of Engineering and vice-versa)

The point was deferred due to lack of sufficient inputs. Further it was suggested to refer AICTE/NIT/IIT guidelines for the same. It was decided to prepare a draft and to be circulated to all members of the board for obtaining its approval.

The meeting ended with a vote of thanks.

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I. Prof. Samrat L. Sabat, Professor, Center of Advanced Studies in Electronic Science and Technology (CASEST), University of Hyderabad, Hyderabad, India.

Dr. D. N. Gaonkar, Associate Professor, EEE Department, National Institute of Technology, Suratkal, Karnataka, India.

Dr. Deepak Samuel, Dean, School of Physical Sciences, Central University of Karnataka, Kalaburagi-585367, India.

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Dr. Ravindra S. Hegadi, Dean, School of Computer Science, Central University of Karnataka, Kalaburagi-585367, India.

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Dr. Veeresh G. Kasabegoudar, Associate Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.

ಅಧ್ಯಕ್ಷ / 14/07/2017

ಇಲೆಕ್ಟ್ರಾನಿಕ್ಸ್  
Dept. of Electronics

ಕರ್ನಾಟಕ ಕೇಂದ್ರೀಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯ / Central University of Karnataka  
ಕಡಗಂಚಿ, ಕಲಬುರಗಿ / Kadaganchi, Kalaburagi-585367

2  
School of Engineering

**CENTRAL UNIVERSITY  
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Dr. Paramesha, Associate Professor,  
Department of ECE, Central University  
of Karnataka, Kalaburagi-585367, India.

Dr. Santosha Kumar A, Assistant  
Professor, Electrical Engineering Dept.,  
Central University of Karnataka,  
Kalaburagi-585367, India.

Dr. Layak Ali, Assistant Professor,  
Department of ECE, Central University  
of Karnataka, Kalaburagi-585367, India.

(Email responses will be considered as approval for the minutes by the corresponding  
BOS members, Department of Electronics and Communication Engineering  
Department, School of Engineering, Central University of Karnataka)

B

**अध्यक्ष / HEAD**

इलेक्ट्रॉनिक्स और संचार अभियंत्रण विभाग 3  
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कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585367





Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

**Minutes of the ECE-BOS meeting held on 10.06.2022 (3:30PM) for approval of Third (V & VI Semesters) and Fourth (VII & VIII Semesters) Year B.Tech in ECE.**

Dr. SANDEEP V <sandeep@nitandhra.ac.in>

Tue, Jun 14, 2022 at 12:19 PM

To: Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>  
Cc: "Dr. Samrat L. Sabal" <slssp@uohyd.ac.in>, Samrat Sabal <slssp@uohyd@gmail.com>, Dattatraya Gaonkar <dngaonkar@gmail.com>, dngaonkar@nitk.ac.in, Ravindra S Hegadi Dept of Computer Science <rshegadi@cuk.ac.in>, Deepak Samuel <deepaksamuel@cuk.ac.in>, Deepak Samuel <deepaksamuel@gmail.com>, "Dr. Layak Ali, Engineering" <informlayak@gmail.com>, "Dr. Paramesha Associate Prof. Electronics & Comm. Engg" <parameshap@cuk.ac.in>, "Santosh Kumar A Asst. Prof. Electrical Engg." <santosh.elect@cuk.ac.in>, "Dr. Layak Ali Asst.Prof. Engineering" <layakali@cuk.ac.in>, Hon'ble Vice Chancellor CUK <vc@cuk.ac.in>, Registrar CUK <registrar@cuk.ac.in>, CUK ACAD <cukacad@cuk.ac.in>, "Niteen B Asst. Prof. Civil Engg." <niteenb@cuk.ac.in>, "sangamesh Asst. Prof. Mech. Engg." <sangameshrajole@cuk.ac.in>, "Paramesh S P Asst. Prof. CS Engg." <parameshsp@cuk.ac.in>

Dear Sir,  
Greetings.

As discussed in the meeting for agenda item no. 6 Inclusion of GATE qualified students for admission to M.Tech courses of SOE, I strongly recommend going with Centralized Counseling for M.Tech. (CCMT) next year onward. <https://ccmt.admissions.nic.in>

Note: The CCMT Counselling is for full time seats carrying scholarships. Therefore, the students get financial support.

Already following Central Universities & Deemed Universities are participating in CCMT.

University of Hyderabad  
Central University of Rajasthan  
Central University of Punjab  
Guru Ghasidas Vishwavidyalaya, Bilaspur

Punjab Engineering College, Chandigarh  
Central Institute of Technology, Kokrajhar  
Defence Institute of Advanced Technology (Deemed to be University), Pune  
Shri Mata Vaishno Devi University, Katra

You may check with the above institutes about the procedure followed to get into CCMT with / without AICTE permission. CUK may adopt the same.  
The minutes of BOS may be approved please.

Thanks & Regards,  
V. Sandeep

[Quoted text hidden]

SANDEEP, PHD (IITD), SMIEEE  
Assistant Professor & HEAD  
Department of Electrical Engineering  
National Institute of Technology (NIT) Andhra Pradesh  
Tadepalligudem - 534101, INDIA  
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<http://nitandhra.ac.in/dept/eee/>

Associate Dean - International Relations & MoUs, NIT AP  
Chair- PES / PELS / IAS Jt Chapter, IEEE Vizag Bay Section  
Project Manager, DSIR - CRTDH -ERC, GoI  
IEEE Senior Member - PES, PELS, IAS & IES, Standards Association  
Life Member - ISTE, Member - IE(1), Member - IAENG, Chartered Engineer  
Branch Counselor, NIT AP IEEE Student Branch  
Branch Advisor, NIT AP IEEE PES, IAS & PELS SB Chapters

**अध्यक्ष / HEAD**

इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग

Dept. of Electronics & Communication Engineering

कर्नाटक केन्द्रीय विश्वविद्यालय / Central University of Karnataka  
कडगंचि, कलबुरगी / Kadaganchi, Kalaburagi-585 367



Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

**Minutes of the ECE-BOS meeting held on 10.06.2022 (3:30PM) for approval of Third (V & VI Semesters) and Fourth (VII & VIII Semesters) Year B.Tech in ECE.**

Dattatraya Gaonkar <dngaonkar@gmail.com>

To: Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Tue, Jun 14, 2022 at 9:08 AM

Dear Dr. Veeresh

I approve the minutes of the meeting. signed file is attached

with best wishes

[Quoted text hidden]

Dr. Dattatraya Narayan Gaonkar, Associate Professor,  
Department of Electrical and Electronics Engineering,  
National Institute of Technology Karnataka Surathkal (NITK),  
Srinivasnagar Post, Mangalore-575025  
Karnataka, India

Ph. 91-824-2474000 (Extn: 3457)

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3rd BOS-ECE Minutes of the Board of Studies Meeting-10.06.2022.pdf  
1138K

**अध्यक्ष / HEAD**

इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग

**Dept. of Electronics & Communication Engineering**

कर्नाटक केन्द्रीय विश्वविद्यालय/Central University of Karnataka

कडगंची, कलबुरगी / Kadaganchi, Kalaburagi-585 367





Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Minutes of the ECE-BOS meeting held on 10.06.2022 (3:30PM) for approval of Third (V & VI Semesters) and Fourth (VII & VIII Semesters) Year B.Tech in ECE.

Dr. Samrat L. Sabat <slssp@uohyd.ac.in>

Tue, Jun 14, 2022 at 12:30 PM

To: Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Cc: Samrat Sabat <slsspuohyd@gmail.com>, Dattatraya Gaonkar <dngaonkar@gmail.com>, dngaonkar@nitk.ac.in, Ravindra S Hegadi Dept of Computer Science <rshegadi@cuk.ac.in>, Deepak Samuel <deepaksamuel@cuk.ac.in>, Deepak Samuel <deepaksamuel@gmail.com>, "Dr. Layak Ali, Engineering" <informlayak@gmail.com>, "Dr. Paramesha Associate Prof. Electronics & Comm. Engg" <parameshap@cuk.ac.in>, "Dr. SANDEEP V" <sandeep@nitandhra.ac.in>, "Santosh Kumar A Asst. Prof. Electrical Engg." <santosh.elect@cuk.ac.in>, "Dr. Layak Ali Asst.Prof. Engineering" <layakali@cuk.ac.in>, Hon'ble Vice Chancellor CUK <vc@cuk.ac.in>, Registrar CUK <registrar@cuk.ac.in>, CUK ACAD <cukacad@cuk.ac.in>, "Niteen B Asst. Prof. Civil Engg." <niteenb@cuk.ac.in>, "sangamesh Asst. Prof. Mech. Engg." <sangameshrajole@cuk.ac.in>, "Paramesh S P Asst. Prof. CS Engg." <parameshp@cuk.ac.in>

Approved.

Thanks & Regards

Samrat Sabat

[Quoted text hidden]

अध्यक्ष / HEAD

इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering,  
कर्नाटक केन्द्रीय विश्वविद्यालय Central University of Karnataka  
कडगंची, कलबुरगी / Kadaganchi, Kalaburagi-585 367

Date: 29-03-2023

Minutes of the Approval Obtained from Board of Studies (BOS), Department of Electronics and Communication Engineering, School of Engineering, Central University of Karnataka, Kalaburagi on 24<sup>th</sup> March 2023 through Circulation Mode.

The Board of Studies (BOS) Members of Department of ECE :

1. Prof. Samrat L. Sabat, Professor, Center of Advanced Studies in Electronic Science and Technology (CASEST), University of Hyderabad, Hyderabad, India.
2. Dr. D. N. Gaonkar, Associate Professor, EEE Department, National Institute of Technology, Suratkal, Karnataka, India.
3. Dr. Deepak Samuel, Head & Dean, School of Physical Sciences, Central University of Karnataka, Kalaburagi-585367, India.
4. Dr. Ravindra S. Hegadi, Head & Dean, School of Computer Science, Central University of Karnataka, Kalaburagi-585367, India.
5. Dr. V. Sandeep, Assistant Professor, Head, EE Dept., National Institute of Technology, Tadepalligudem, Andhrapradesh-534102, India.
6. Dr. Veeresh G. Kasabegoudar, Associate Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
7. Dr. Paramesha, Associate Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
8. Dr. Layak Ali, Assistant Professor, Department of ECE, Central University of Karnataka, Kalaburagi-585367, India.
9. Dr. Santosha Kumar A., Assistant Professor, Department of EE, Central University of Karnataka, Kalaburagi-585367, India.

Following points were communicated to all Honorable BOS Members through Email dated 24.03.2023 @2:21PM and requested for your kind approval:

1. Because of a change in the admission period due POST-COVID situation, an NPTEL course for 4th semester (Renewable Energy Engineering, a 2 credits course) is not available on the SWAYAM/NPTEL platform. Hence, students have requested to suggest an alternate course. In this regard the department has planned to offer a course on image processing (Introduction to Image Processing). A draft syllabus copy of the same is enclosed herewith for your kind perusal and needful suggestions & for its approval. Early response will benefit the students.
2. I am happy to inform you that the CUK administration has appointed two more assistant professors in ECE Dept. 1. Dr. Mallikarjun A., and 2. Dr. Nagaraj P. Y. With this the total strength of regular faculty members increased to 5. As on date three contractual faculty members are also on roll.
3. As conveyed to you in the previous BOS meeting, the existing M.Tech course (Embedded and Real Time Systems) has no admissions for the AY 2022-23. Hence the department has requested (this was also discussed in the last BOS meeting) CUK administration to start the new M.Tech course in RF and Microwave Engineering in place of the old one. Once the same

अध्यक्ष / HEAD  
इलेक्ट्रॉनिक्स और संचिकांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय / Central University of Karnataka  
कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585367





Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Providing Information and Seeking your Kind Approval

Fri, Mar 24, 2023 at 2:21 PM

To: "Dr. Samrat L. Sabat" <slssp@uohyd.ac.in>, Samrat Sabat <slsspuohyd@gmail.com>, Dattatraya Gaonkar <dngaonkar@gmail.com>, dngaonkar@nitk.ac.in, Ravindra S Hegadi Dept of Computer Science <rshegadi@cuk.ac.in>, Deepak Samuel <deepaksamuel@cuk.ac.in>, Deepak Samuel <deepaksamuel@gmail.com>, "Dr. Layak Ali, Engineering" <informlayak@gmail.com>, "Dr. Paramesha Associate Prof. Electronics & Comm. Engg" <parameshap@cuk.ac.in>, "Dr. SANDEEP V" <sandeep@nitandhra.ac.in>, "Santosh Kumar A Asst. Prof. Electrical Engg." <santosh.elect@cuk.ac.in>, "Dr. Layak Ali Asst.Prof. Engineering" <layakali@cuk.ac.in>  
Cc: Registrar CUK <registrar@cuk.ac.in>, CUK ACAD <cukacad@cuk.ac.in>, "DR MALLIKARJUN ANANDHALLI Assit. Prof. Dept. of Electronics and Comm Engg" <mallikarjuna@cuk.ac.in>, "DR. NAGARAJ YAMANAKKANAVAR Asst. Prof. Dept. of Electronics and Comm Engg" <nagraj.p.y@gmail.com>

Respected Sir/Madam,  
Greetings of the day,

Through this mail I would like to bring to the kind notice of honorable BOS members of ECE Department that:  
1. Because of a change in the admission period due POST-COVID situation, an NPTEL course for 4th semester (Renewable Energy Engineering, a 2 credits course) is not available on the SWAYAM/NPTEL platform. Hence, students have requested to suggest an alternate course. In this regard the department has planned to offer a course on image processing (Introduction to Image Processing). A draft syllabus copy of the same is enclosed herewith for your kind perusal and needful suggestions & for its approval. Early response will benefit the students.

2. I am happy to inform you that the CUK administration has appointed two more assistant professors in ECE Dept. 1. Dr. Mallikarjun A., and 2. Dr. Nagaraj P. Y. With this the total strength of regular faculty members increased to 5. As on date three contractual faculty members are also on roll.

3. As conveyed to you in the previous BOS meeting, the existing M.Tech course (Embedded and Real Time Systems) has no admissions for the AY 2022-23. Hence the department has requested (this was also discussed in the last BOS meeting) CUK administration to start the new M.Tech course in RF and Microwave Engineering in place of the old one. Once the same (nomenclature) is approved in the Academic Council (AC) meeting of CUK, a BOS meeting will be called to set up the curriculum and for its approval. The meeting will be conducted in physical mode. If external members wish, an online/blended mode meeting will be organized.

This is for your kind information and needful action.

Thanks and Regards,  
Yours Sincerely,

Dr. Veeresh G. Kasabegoudar

ಮುಖ್ಯಸ್ಥರು, ಅಭಿಯಾಂತ್ರಿಕ ನಿಕಾಯ, ಕರ್ನಾಟಕ ಕೇಂದ್ರೀಯ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಕಡಗಾಂಚಿ, ಕಲಬುರಗಿ, ಕರ್ನಾಟಕ, ಭಾರತ- ೫೮೫೩೬೭  
अध्यक्ष, अभियांत्रिकी निकाय, कर्नाटक केंद्रीय विश्वविद्यालय, कडगान्ची, कलबुर्गी, कर्नाटक, भारत- ५८५३६७.

Dean, School of Engineering, Central University of Karnataka, Kadaganchi, Kalaburagi, Karnataka, India-585367.

Introduction to Image Processing.pdf

150K

अध्यक्ष / HEAD

इलेक्ट्रॉनिक्स और

Dept. of Electron

कडगान्ची, कलबुर्गी / Kadaganchi, Kalaburagi

Handwritten signature

गंगाधर अभियांत्रिकी विभाग  
Department of Electronics Engineering  
Central University of Karnataka  
Kadaganchi-585 367



Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

## Providing Information and Seeking your Kind Approval

Dattatraya N Gaonkar, EEE Dept <dngaonkar@nitk.edu.in>

To: Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Fri, Mar 24, 2023 at 3:42 PM

Dear Prof Veeresh

I approve the syllabus

with best wishes

Dr. Dattatraya Narayan Gaonkar, Associate Professor and Head,  
Department of Electrical and Electronics Engineering,  
National Institute of Technology Karnataka Surathkal (NITK),  
Srinivasnagar Post, Mangalpre-575025  
Karnataka, India  
Ph. 91-824-2474000 (Extn: 3457)  
Mobile No.91-9482249764  
Email: dngaonkar@gmail.com

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अध्यक्ष / HEAD

इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग

Dept. of Electronics & Communication Engineering

केन्द्रीय कर्नाटक विश्वविद्यालय / Central University of Karnataka

काडगंचो, काडगुरगी / Kadaganeri, Kataka





Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

## Providing Information and Seeking your Kind Approval

Deepak Samuel <deepaksamuel@cuk.ac.in>

To: Veeresh Gangappa Kasabegoudar Associate Professor <veereshgk@cuk.ac.in>

Wed, Mar 29, 2023 at 4:50 PM

Dear Sir,  
Please consider this mail as my approval.  
Best regards,  
[Quoted text hidden]

--  
**Deepak Samuel Ph.D.,**  
Associate Professor and Head,  
Department of Physics  
School of Physical Sciences  
Central University of Karnataka  
Kadaganchi, Aland Road, Gulbarga Dist. - 585 367

अध्यक्ष / HEAD

इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग

Dept. of Electronics & Communication Engineering

संस्कृत केन्द्रीय विश्वविद्यालय: Central University of Karnataka

कडगंची, कलबुर्गी / Kadaganchi, Kalaburagi - 585 367





# Central University of Karnataka

(Established by an Act of the Parliament in 2009)

## School of Engineering

Department of Electronics and Communication

Website: www.cuk.ac.in

Date: 12-7-2023

Minutes of the Board of Studies (BoS), Department of Electronics and Communication, School of Engineering, Central University of Karnataka, Kalaburgi, held on 12/7/2023 at 3 PM in EE Seminar Hall.

The Board of Studies (BoS) members who participated in the Department of Electronics and Communication Engineering are as follows:

1. Prof. Samrat L. Sabat, Professor, Center for Advanced Studies in Electronic Science and Technology (CASEST), University of Hyderabad.
2. Dr. D. N. Gaonkar, Head, Department of EEE, NIT, Suratkal
3. Prof. Ravindra S Hegdi, Dean, School of Computer Sciences, CUK
4. Dr. Deepak Samuel, Dean, School of Physical Sciences, CUK
5. Dr. Paramesha, Associate Professor and Head, Department of Electronics and Communication, School of Engineering, CUK
6. Dr. Veeresh G. Kasabegoudar, Associate Professor and Dean, Department of Electronics and Communication, School of Engineering, CUK
7. Dr. Layak Ali, Assistant Professor, Department of Electronics and Communication, School of Engineering, CUK

The 5<sup>th</sup> BoS meeting of Electronics and Communication Engineering was started with welcome address by the Chairman of BoS, ECE. The BoS discussed all the agenda items listed as follows.

Item 1: Confirmation of minutes of 4<sup>th</sup> BoS meeting held on 24-3-2023.

The minutes of the 4<sup>th</sup> Board of Studies meeting held on 24<sup>th</sup> March 2023 were confirmed.

अध्यक्ष / HEAD

इलेक्ट्रॉनिक्स और संघटन अभियांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय, Central University of Karnataka  
कडगंची, कलबुर्गी / Kadaganchi, Kalaburagi-585 367

**Item 2: Approval for proposed M.Tech in RF and Microwave Engineering.**

The BoS has approved curriculum structure and syllabi proposed for M.Tech, in RF and Microwave Engineering, and recommended forwarding the proposal to the competent authority for further consideration.

Committee experts suggested to develop Design, Fabrication and Testing facilities in the future. Board also suggested to mention total teaching hours, and it is incorporated.

**Item 3: Approval to form Department Level Research Assessment committee (RAC) to review the research progress and assessment of each research scholar as in line with UGC & CUK guidelines.**

The BoS has approved and recommended forwarding to the competent authority for further consideration.

The chairman concluded the meeting and conveyed greetings to all members regarding spending their precious time.

(e-mail approval)

Prof. Samrat L. Sabat.

(e-mail approval)

Dr. D. N. Gaonkar

(e-mail approval)

Prof. Ravindra S Hegdi

  
Dr. Deepak Samant

  
Dr. Paramesha

  
Dr. Veeresh G. Kasabegoudar

  
Dr. Layak Ali

अध्यक्ष / HEAD   
इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग  
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Head Department of Electronics & Comm. Engg. <hodece@cuk.ac.in>

## 5th BoS Minutes of meeting

Dattatraya N Gaonkar, EEE Dept <dngaonkar@nitk.edu.in>  
To: "Head Department of Electronics & Comm. Engg." <hodece@cuk.ac.in>

Fri, Jul 14, 2023 at 12:29 PM

Dear Prof. Paramesha

I approve the minutes

with best wishes

Dr. Dattatraya Narayan Gaonkar, Associate Professor and Head,  
Department of Electrical and Electronics Engineering,  
National Institute of Technology Karnataka Surathkal (NITK),  
Srinivasnagar Post, Mangalore-575025  
Karnataka, India  
Ph. 91-824-2474000 (Extn: 3457)  
Mobile No.91-9482249764  
Email: dngaonkar@gmail.com  
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अध्यक्ष / HEAD  
इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय, Central University of Karnataka  
कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585 357



Head Department of Electronics & Comm. Engg. <hodece@cuk.ac.in>

## 5th BoS Minutes of meeting

Dattatraya N Gaonkar, EEE Dept <dngaonkar@nitk.edu.in>  
To: "Head Department of Electronics & Comm. Engg." <hodece@cuk.ac.in>

Fri, Jul 14, 2023 at 12:29 PM

Dear Prof. Paramesha

I approve the minutes

with best wishes

Dr. Dattatraya Narayan Gaonkar, Associate Professor and Head,  
Department of Electrical and Electronics Engineering,  
National Institute of Technology Karnataka Surathkal (NITK),  
Srinivasnagar Post, Mangalore-575025  
Karnataka, India  
Ph. 91-824-2474000 (Extn: 3457)  
Mobile No.91-9482249764  
Email: dngaonkar@gmail.com

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अध्यक्ष / HEAD  
इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय, Central University of Karnataka  
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Head Department of Electronics & Comm. Engg. <hodece@cuk.ac.in>

## 5th BoS Minutes of meeting

Dattatraya N Gaonkar, EEE Dept <dngaonkar@nitk.edu.in>  
To: "Head Department of Electronics & Comm. Engg." <hodece@cuk.ac.in>

Fri, Jul 14, 2023 at 12:29 PM

Dear Prof. Paramesha

I approve the minutes

with best wishes

Dr. Dattatraya Narayan Gaonkar, Associate Professor and Head,  
Department of Electrical and Electronics Engineering,  
National Institute of Technology Karnataka Surathkal (NITK),  
Srinivasnagar Post, Mangalore-575025  
Karnataka, India

Ph. 91-824-2474000 (Extn: 3457)

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अध्यक्ष/HEAD

इलेक्ट्रॉनिक्स और संचार अभियंत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
कर्नाटक केन्द्रीय विश्वविद्यालय/Central University of Karnataka  
कडगंचे, कलसुरगी / Kadoganchi, Kalaburagi-586 367



Head Department of Electronics & Comm. Engg. <hodece@cuk.ac.in>

## Minutes of the 5th BoS meeting

Ravindra S Hegadi Dept of Computer Science <rshegadi@cuk.ac.in>  
To: "Head Department of Electronics & Comm. Engg." <hodece@cuk.ac.in>

Fri, Jul 14, 2023 at 12:20 PM

Dear Sir,  
I approve the draft proceedings of the meeting.  
With regards,

-----  
Dr. R. S. Hegadi  
Professor and Dean - School of Computer Sciences  
Nodal Officer - Project Samarth, MHRD, and Visvesvaraya PhD Scheme, MeitY, GoI  
Central University of Karnataka, Kadaganchi, Kalaburagi - 585367, India.  
Senior Member - IEEE, Associate Editorial Board Member: *Current Medical Imaging*  
Cell No.: (+91) 9448023871, 9604085138  
Email: rshegadi@gmail.com, rshegadi@cuk.ac.in, <https://rshegadi.wixsite.com/home>

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अध्यक्ष / HEAD   
इलेक्ट्रॉनिक्स और संचार अभियांत्रिकी विभाग  
Dept. of Electronics & Communication Engineering  
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कडगंचि, कलबुर्गी / Kadaganchi, Kalaburagi-585 367