"Science has no idea how much it owes the imagination."

- Ralph Emerson

Newsletter

Vision and Mission of the Department

Vision: Develop the department into a full-fledged center of learning in various fields of Electronics and Communication Engineering in pursuit of excellence in Education, Research, Entrepreneurship and Technological services to the society

Mission: 1) Imparting quality education to develop innovative and entrepreneurial professionals fit for globally competitive environment .

2)To nurture the students in the field of Electronics and Communication Engineering with an overall background suitable for attaining a successful career in higher education, research and industry

Program Educational Objectives (PEOs): Within first few years after graduation, the ELECTRONICS AND COMMUNICATION ENGINEERING graduates will be able to ...

PEO1: Technical Expertise building on fundamental knowledge, graduate should continue develop technical skills within and across disciplines in electronics and communication engineering for productive and successful career maintaining professional ethics.

PEO2: Successful Career graduates should develop and exercise their capabilities to demonstrate their creativity in engineering practice and team work with increasing responsibility and leadership .

PEO3: Soft Skills and Life Long Learning graduates should refine their knowledge and skills to attain professional competence through lifelong learning such as higher education, advanced degrees and professional activities

Program Outcomes (Pos) : At the time of graduation, the Electronics and Communication Engineering graduates will be able to ...

PO1: Engineering knowledge apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3:Design/ development of solutions design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage create, select, and apply appropriate techniques, resources, and modern engineering and it tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.

PO9: Individual and team work function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs):

PSO1 : readiness for immediate professional practice

PSO2 : an ability to use fundamental knowledge to investigate new and emerging technologies leading to innovations.

ICDECT 2021

The department of ECE conducting International Conference on Data Engineering and Communication Technology (ICDECT) 2021 on 15-16 July , 2021. ICDECT 21 is a conference that mainly focuses to offer a real opportunity to bring together scientists of different disciplines , to discuss new issues, to tackle complex problems and to find advanced solutions breeding new trends in CSE,ECE and EIE. The conference and industry to share the recent developments and to discuss about the discoveries in computational intelligence and informatics.

All the selected and presented papers will be published in Springer proceedings.

Sir Capt. V. Lakshmikantha Rao (5th from left) , Sri. P. Narayana Reddy Treasurer of KITSW (4th from left) . Dr. K. Ashoka Reddy principal of KITSW (8th from left) , Dr. B. Rama Devi HOD-ECE (3rd from left) and faculty of Dept. of ECE launching the ICDECT 2021 brochure .

Faculty Achievements

- Dr. B. Dhanalaxmi has been honored with the *"best woman scientist award,"* from novel research academy on 30th January , 2021.

- Dr. K. Sowjanya has organized a guest lecture for students on *"Introduction to Planetary Radar Astronomy by Dr. Sriram Saran Bhiravarasu , Staff Scientist, Space Applications Center, ISRO"* on 12-09-2020.
- Sri D. Santhosh Kumar has enrolled for PhD in SRM Institute of Technology in December 2020.
- Sri D. Srinivas Rau has enrolled for PhD in Saveetha School of Engineering in October 2020.
- Sri. P. Chiranjeevi has organized a two week FDP on *"SAP Business One"* on 22nd July, 2020 in association with Transfinite Innovative Solutions Pvt. Limited, Mumbai.
- Dr. K. Sowjanya has published a book on *"Automatic Gray Level Image Correction using Artificial Intelligence."*

Puzzle Answers

D: 1.Semiconductor 2.Candela 3.Headphones 4.Registers 6.Closed

A: 5.Magnetic 7.Explosion 8.Digital 9.Thermistor

Department of Electronics & communication Engineering
Kakatiya Institute of Technology & Science, Warangal - 15
(An Autonomous Institute under Kakatiya University, Warangal)

Newsletter

Chief Editor Message:

It gives me immense pleasure to pen a few words as prologue to our in-house Newsletter exclusively meant for churning out the latent writing talent which bears im- mense potentiality of sharpening communication skill as part of overall personality development. I congratulate the editorial board of the newsletter for their untiring efforts in collecting and compiling the data without which it would have not been possible to place this newsletter in your hands. I, on behalf of KITSW family wish you all the best for achieving greater success and scaling new heights in the future.

-Dr.K.Ashoka Reddy, Principal, KITSW

Editor Message:

It's my immense pleasure to release the newsletter and appreciate the faculty and students team for their efforts in keeping up the institute name and fame with their continuous support and efforts. I thank the Principal and management for providing fund to establish new labs of Embedded Systems and Applications, IoT, and Advanced DSP processors, Artificial Intelligence and Machine Learning. The department of ECE revised the syllabus and incorporating subjects related to industrial 4.0 technologies and subjects on advanced technologies with hands on practice. Hope this will pave a greater step in building industry relations and exposure on advanced technologies, and enhance the opportunities to work/ research in core areas. I wish a very good luck and happy learning to you all.

-Dr.B.Rama Devi, HoD Dept.of ECE,KITSW

STUDENTS ACHIEVEMENTS

Performance in Competitive Examinations

GATE : **10** students qualified in GATE competitive exam.

GRE : **10** students qualified in GRE test.

TOEFL : **07** students qualified in TOEFL test.

IELTS : **04** students qualified in IELTS test.

CAT : **04** students qualified in CAT competitive test.

CAMPUS PLACEMENTS RESULTS

Name of Recruiter	Number of Students
DXC	33
TCS Ninja	02
Modak	02
Hexaware	05
Cognizant	32
TCS NQT	43
CTC GENQ	01
MIND TREE	06
Tech Mahindhra	03
Wipro Talent	02
Medha Servo	01
Total	**130**

FDP

AICTE Sponsored Two week Faculty Development Programme (FDP) on **"Hands on Project-Based Approach for Biomedical Signal Analysis using MATLAB,"** on 28 december,2020 at 2 pm virtually in the presence of Chief guest **Prof.V.Jagadeesh** , Head Central Electronics Centre and Dean Academic Courses, IIT Madras , **Col.B.Venkat,** Director(FDC),AICTE as the guest of honor, **Capt.V.Lakshmikantha Rao**, Secretry and correspondent,KITSW and **Sri.P.Narayana Reddy**, Treasurer,KITSW and 2nd phase of training on February 01,2021 at 2 pm **Dr.Rangaraj M. Rangayyan**, prof emeritus of electrical and computer engineering, University of Calgary, Alberta, Canada.

Prof.V.Jagadeesh addressing during the session.

Dr.Rangaraj addressing during the session.

"Science is simply common sense at its best"

- Thomas Huxley

Newsletter

Volume 9, Issue 2

E-Textiles

The time to integrate the electronics into our clothes has arrived..

These are fabrics that authorize computized elements such as a battery and a light and also electronics to be inserted in them. "Smart textiles" are fabrics that have been evolved with new technologies that provide added value to the clad. "what makes smart fabrics thorough going is that they have the capacity to do many things that traditional fabrics cannot ".

E-textiles with definitive electronic devices such as conductors, integrated circuits , LEDs, OLEDs and conventional batteries lodged into apparel.

Most research and mercantile e-textile avocations are intermingled, where electronic components lodged in the fabric are connected to simple electronic components. Some examples are touch buttons that are erected completely in textile forms by using channeling textile fabric, which are then associated to devices such as music players or LEDs .

It can be used in various scenarios like i) Dogging the place and rank of soldiers in action. ii) Monitoring pilot or truck driver fatigue. iii) Innovative fashion (wearable tech) etc.,

LATEST TECH INNOVATIONS

Molecular Electronics

In 1956 by the German physicist Arthur Von Hippel molecular electronics are mentioned who suggested a bottom-up procedure of developing electronics from atoms and molecules rather than using prefabricated materials.

All electronic processes in nature, from photosynthesis to signal transduction, occur in molecular structures. four major advantages of molecular structures : Size, Assembly and recognition, Dynamical stereochemistry, Synthetic tailorability. Size: The size scale of molecules is between 1 and 100 nm, a scale that permits functional nanostructures with accompanying advantages in cost, efficiency, and power dissipation.

Assembly and recognition: Molecular recognition can be used to modify electronic behavior, providing both switching and sensing capabilities on the single-molecule scale. Dynamical stereochemistry: Many molecules have multiple distinct stable geometric structures or isomers. Such geometric isomers can have distinct optical and electronic properties. Synthetic tailorability : The tools of molecular synthesis are highly developed. "There is Plenty of Room at the Bottom." said by Richard Feynman.

The future of molecular electronics are :realizing that a true molecular electronics technology are daunting. Self-assembly schemes based on molecular recognition will be pivotal. Robust modeling methods are used to bridge the gap between the synthesis and recognition of molecules in solution and also the production of solid-state molecular devices.

The technology goals of molecular electronics, such as the algorithmic applications should probably be observed as operators for guiding the field ahead and also for specifying the pivotal and flow restriction challenges that must be controlled.

Blackbuck Engineers

Blackbuck Center of Excellence who KITSW has tied up with for various programs like internships, workshops, professional certifications, webinars and Industry focused activities. This collaboration will bring out outstanding benefits and great work and knowledge in AI, Data Science and Machine Learning .

The faculty co-ordinator Sri. K. Ramudu has guided the students in this aspect. A total of 617 students have completed their internships in various MOU organisations as well as reputed MNC's during the Academic Year 2019-20.

Inauguration of the Blackbuck event (virtual)- HoD, Principal, Prof. Rammaiah, K. Ramudu, Vishnu Kiran (Director of products & innovations), Rajkumar (Blackbuck) and Anuradha Thota (CEO&Founder), faculty and students.

"The capacity to be puzzled is the premise of all creation , be it in art or in science. "

—Erich Fromm

Newsletter

Volume 9, Issue 2

STTP

An AICTE Sponsored Short term training program (STTP) has been organized by the Dept. of ECE on **"Hands on project-based approach for 5G Design and development using MATLAB".**

Prof. K. Ashoka Reddy , principal and coordinator of the event and the co-coordinator Sri. B. Narasimha have organized the program in 3 phases from

i) 02-11-2020 to 07-11-2020,ii) 14-12-2020 to 19-12-2020 and iii) 18-01-2021 to 23-01-2020.

Bottom-> Principal of KITSW Dr. K. Ashoka Reddy(3rd from left) , HoD –ECE (2nd from left) and the faculty of Dept. of ECE

Sumshodhini-2020

Sumshodhini'20, a National Level Technical Symposium was organized by the KITSW Student Activity Center (SAC) and ISTE Student Chapter on 11-12 December ,2020 .

As a part of SUMSHODHINI'20 many technical events were conducted by the Dept. of ECE such as BIT2BYTE, Tech Buzz, Paper Presentation, Project Expo and two workshops "Circuit Digest" and "Applications of IOT & ML for Smart Cities to students".

Bottom-> Dr. B. Rama Devi HoD-ECE (Third from left) , faculty co-ordinators and , Top-> student co-ordinatocs of the workshop .

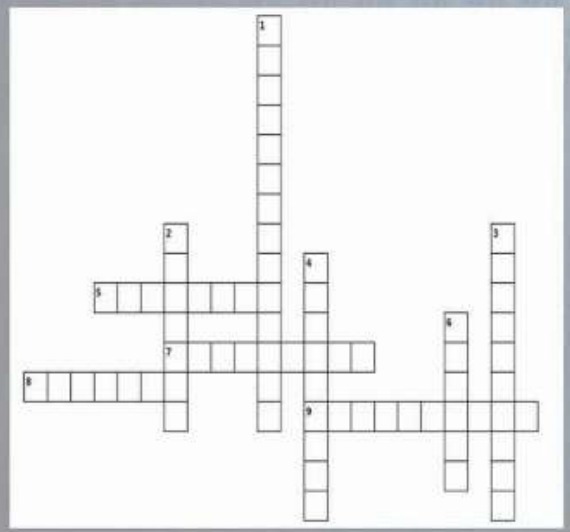
New Lab Establishment

The department of ECE established few new labs of labs of Embedded Systems and Applications, IoT, and Advanced DSP processors, Artificial Intelligence and Machine Learning.

Student Achievement

Tulasi Krishna a student of 3rd Year ECE has published a student paper in the IEEE on "Automobile Safety Technology development using vehicular safety device (VSD)".

PUZZLE



Across:
5.The electrical energy consumed by a coil is stored in the form of which field?
7.what may happen to lead battery when overcharged?
8.Which type of signal is represented by discrete values?
9.Which resistive component is designed to be temperature sensitive?

Down:
1.Main memories of a computer, usually made up of _____.
2.units of luminous intensity?
3.which device converts electricity into acoustic energy?
4.Which has the lowest access time?
6.A voltage will influence current only if the circuit is?