

2016-2017



# INSTRUMENTATION AND CONTROL ENGINEERING

.....CONTROL FOR CHANGE



## DEPARTMENT BROCHURE

SRI KRISHNA COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Kovaipudur , Coimbatore – 641042



### From Principal's Desk

I am happy to note that the Department of Instrumentation & Control Engineering is going to release a BROCHURE for the academic year 2016-17. I am sure that this brochure will be filled with interesting and important information containing academic, co-curricular and extra curricular activities of the department. I am pleased to state that this department by virtue of excellent Infrastructural facilities, committed faculty members and enthusiastic student community, is earning continuous reputation with many laurels to its credit. The Instrumentation & Control Engineering students are exposed to a good blend of subjects in Electrical, Electronics, Control Systems and Computer Science Engineering. In addition to this, they have been given training by renowned personality development trainers, leading HR professionals and industrialists, to enable them to take up globally challenging jobs in leading Industries.

### From HOD's Desk



We are pleased to present a synopsis of the Department of Instrumentation & Control Engineering (ICE) in the form of a brochure. Instrumentation & Control is an emerging trend of engineering which provides solutions to problems of highly competitive industrial automation systems in the current scenario.

The Department organizes various events to enhance the technical and personality traits of students by encouraging them to actively involve in curricular, co-curricular and extra-curricular activities. They are exposed to challenging environment in the campus which mould them into career-chartered, enthusiastic and industry-ready engineers.

## VISION

To become a world class school and centre for excellence in Instrumentation and control engineering for higher level learning, research and consultancy.

## MISSION

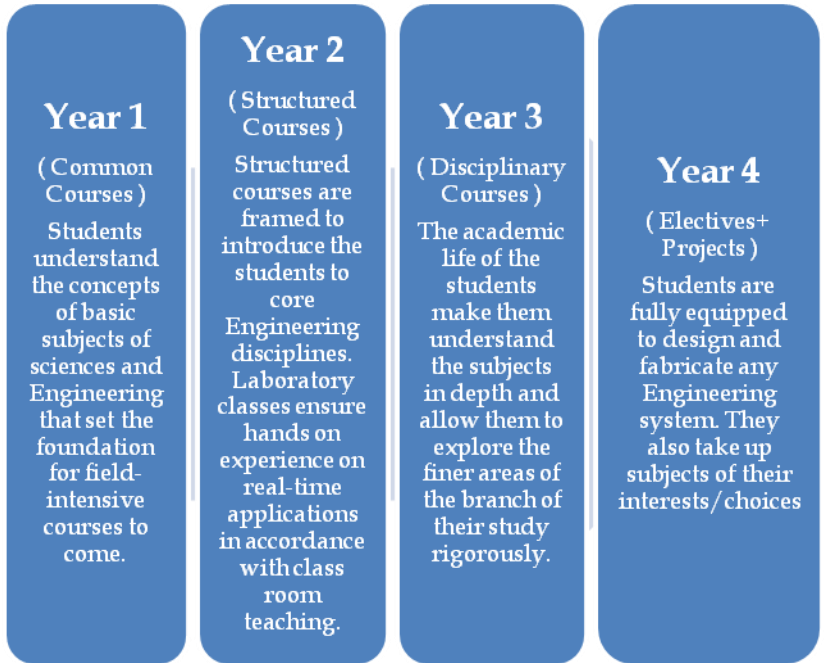
- **IMPART** high quality education that comprehends student aspiration and potential.
- **CREATE** passion for learning and foster innovation.
- **ENDORSE** and nurture the talents towards serving the society

## WHY ICE?

We, at Sri Krishna College of Technology, believe in quality rather than quantity. Thus our budding engineers are equipped with sharp skills and in depth understanding of the problems placed before them. ICE, as the name indicates, is a synergistic combination of Electrical, Electronics, Computer Science, Control and Instrumentation Engineering. This interdisciplinary nature of the course makes our students most suitable for today's industry, as most of contemporary products require contributions from more than one field of Engineering.

Our engineers solve the problems of automations, challenged in current industrial environment. The knowledge imparted to them on various fields of engineering, make them suitable for Public Sector Undertakings, Core Companies, IT Companies and also to pursue their master's and research programmes in interdisciplinary fields. The demand for Instrumentation & Control Engineers is ever rising with the updating technology and the contemporary popularity of Industrial Automation. A fast growing industrial environment requires blend of different technologies and trend for achieving high efficiency and productivity. We believe that students of this department will prove their mettle to set the trends of future.

# THE 4 YEAR STUDENT'S ACADEMIC LIFE



## COURSE-TRACK

	Humanities
	Basic Sciences
	Engineering Sciences
	Professional Core
	Professional Soft Core (Choice Based) - PSC
	Mandatory Courses
	Professional Electives (Choice Based) - PE
	Open Electives (Choice Based) - OE
	Project Work - PW

Semester	SUBJECTS									
VIII	PE	PE	PW							
VII	Bio Medical Instrumentation	Instrumentation System Design	PE	PE	PE	OE	Bio Medical Instrumentation Laboratory	Instrumentation System Design Laboratory	PW	
VI	Object Oriented Programming	Industrial Instrumentation	Virtual Instrumentation	PE	OE	PSC	Virtual Instrumentation Laboratory	Industrial Instrumentation Laboratory	Object Oriented Programming Laboratory	Professional Ethics
V	Principles of Management	Microprocessor and Microcontrollers	Logic and Distributed Control System	Process Control	PSC	PE	Microprocessor and Microcontrollers Laboratory	Process Control Laboratory	History of engineering	
IV	Advanced Numerical Methods	Advanced C & Data Structures	Digital Logic Circuits	Linear Integrated Circuits and Applications	Control System Engineering	PSC	Linear and Digital Integrated Circuits Laboratory	Control System Laboratory	Advanced C & Data Structures Laboratory	
III	Discrete Transforms and Fourier Analysis	Fluid Mechanics and Heat Transfer	Electrical Machines	Measurements and Instrumentation	Transducer Engineering	PSC	Electrical Machines Laboratory	Transducers and Measurements Laboratory		
II	Business Communication & Presentation Skills	Integral Calculus and Vector Integration	Environmental Science	Material Science	Electric Circuit Analysis	Electronic Devices	Engineering Practice Laboratory	Physics Laboratory	Circuits Analysis Laboratory	
I	Technical English I	Linear Algebra, Differential Equations and its Applications	Engineering Physics	Engineering Chemistry	Problem Solving Techniques and Computer Programming	Basic Civil and Mechanical Engineering	Engineering Graphics Laboratory	Chemistry Laboratory	Computer Programming Laboratory	

<b>PROFESSIONAL SOFT CORE</b>	
1	Embedded System
2	Power Electronics and Drives
3	Analytical Instrumentation
4	Electronic Circuits
5	Renewable Energy resources
6	Power Plant Instrumentation
<b>PROFESSIONAL ELECTIVES</b>	
<b>Elective Stream I      Instrumentation Engineering</b>	
1.	Instrumentation in Process industries
2.	Fibre optics and Laser Instrumentation
3.	MEMS and Nano science
4.	Robotics and Automation
5.	Automotive Electronics
<b>Elective Stream II      Control Engineering</b>	
6.	Intelligent Control
7.	System Identification and adaptive control
8.	Digital Control System
9.	Advanced Control Systems
<b>Elective Stream III      Computer and Networks</b>	
10.	Industrial Data Networks
11.	Computer Architecture
12.	Artificial Intelligence and Expert systems
13.	Real Time Operating Systems
<b>Elective Stream IV      Management Sciences</b>	
14.	Total Quality Management
15.	Operational Research
16.	Management Science
17.	Industrial Organisation
<b>Elective Stream VI      Advanced Electronics</b>	
18.	VLSI Design
19.	Signals and Systems
20.	Digital Signal Processing
21.	Microprocessor Based System Design
22.	Communication Engineering

# INFRASTRUCTURAL FACILITIES

Virtual  
Instrumentation  
Lab



Industrial  
Instrumentation  
Lab

Process Control  
Lab



Transducers &  
Measurements  
Lab



Computer  
Control of  
Process Lab



## CAMPUS LIFE

Located in the heart of one of the India's greatest Engineering cities, SKCT helps foster the skills that will underpin the industries of the future. Our Engineering resources provide support and services for engineering companies of any size and at any location. Students are exposed to and well- trained in all Engineering disciplines and can pursue courses based on their area of interest. Students, also showcases special interests in taking value-added and Online Courses helping them tune to employer's needs.

The association of students and faculty members of ICE Department has always been keen to connect the students with the industries and make sure that they are updated with the latest trends in the industries through guest lectures, industrial visits, in plant trainings etc.

ELERO - A National level Technical Symposium, one of the most successful events organized by the association brings together students of various disciplines from various institutions across India to a single platform and ignites minds intellectually and generates knowledgeable experiences every year.

The department provides a multi-line platform for the students to enhance their extra-curricular talents on a big scale. The English Day organised by the department every year concentrates on the communication skills development while the activities of PRERANA - A Social club, makes each individual a socially responsible citizen. Students have proved themselves in Co- Curricular, Extra - Curricular, Sports, and other social welfare activities every year. Majority of the activities and events are organized through the student community to enhance their leadership and managerial skills. Various other events like workshops and seminars are commonly organized by the department for the personality growth, Entrepreneurship Skill development and enhancement of Interview skills of the student community throughout the year. The department students are exposed beyond measures to world-class learning capability.



# INDUSTRY CONNECT

## WE CATER TO EMPLOYER'S NEED

Training is delivered not only at our state-of-the art laboratories inside the premises, but also nation wide. The students are encouraged to carry out Industrial projects during the course of their study. They are also exposed to industrial ambience through internships, in plant trainings and industrial visits during their four years of study. These industrial interactions help them in bridging the gap between the academic curriculum and industrial needs.

The department has an excellent rapport with companies locally, regionally and nationally. Few of the industries with whom we have a long time partnership through training, industrial projects, internships and placements are:

- ✓ Infosys
- ✓ Cognizant Technology Solutions
- ✓ Wipro Technologies
- ✓ Yokogawa India Ltd
- ✓ Hyundai
- ✓ Kalycito
- ✓ Hexaware Technologies
- ✓ ISRO
- ✓ Hewlett Packard
- ✓ Tech Mahindra
- ✓ KGISL
- ✓ Carborundum
- ✓ ROOTS Industries
- ✓ BPCL
- ✓ Salem Steel plant
- ✓ ACC Cements
- ✓ Pricol Technologies
- ✓ MAS Solar Systems
- ✓ Keystone Automation
- ✓ Viking Industries



# ROAD MAP



# PROCESS INDUSTRIES

**Companies that recruit:**

- ✓ All Power Plants
- ✓ Cement Industries (ACC, Malabar, Ramco Cements)
- ✓ Petrochemical Industries
- ✓ Paper Industries
- ✓ Mining & Metallurgy Industries

**Additional Steps to be taken apart from curriculum study :**

- Value Added Courses on PLC, SCADA, Robotics, Embedded Systems, Automation, Sensors, Process Control
- Carry out Projects related to process control
- Internships / In Plant trainings in industries related to area of interest

# PRODUCT BASED INDUSTRIES

**Companies that recruit:**

- ✓ Yokogawa India Pvt Ltd
- ✓ ABB
- ✓ Siemens
- ✓ General Electric
- ✓ Honeywell Technologies
- ✓ National Instruments
- ✓ Fldsmith
- ✓ Biocon

**Additional Steps to be taken apart from curriculum study :**

- Value Added Courses on core areas of instrumentation & Control
- Internships / In Plant trainings in industries related to area of interest

# SOFTWARE INDUSTRIES

Companies that recruit:

- ✓ Infosys, CTS
- ✓ Wipro Technologies, Accenture
- ✓ IBM
- ✓ Amazon
- ✓ Flipkart
- ✓ Hewlett Packard
- ✓ Tech Mahindra

Additional Steps to be taken apart from curriculum study :

- Value Added Courses / Certification Programmes on recent softwares
- Thorough knowledge updation on C, C++, Java.
- Enhance Aptitude, Reasoning, Group Discussion and communication skills

# PUBLIC SECTOR INDUSTRIES

Public Sector Undertakings that recruit:

- ✓ BHEL, ONGC
- ✓ SAIL
- ✓ NTPC, HAL
- ✓ ISRO
- ✓ BEL
- ✓ HPCL, BPCL
- ✓ GAIL

Qualifying Examinations :

- IES (UPSC)
- GATE
- TNPSC

# HIGHER STUDIES

**Higher Degrees : ME / M Tech, MBA, MS, PhD**

## **Qualifying Examinations**

For Masters Degree in India: GATE, TANCET, CAT, MAT

For Masters Degree Abroad: TOEFL, IELTS, GRE, GMAT

## **Courses that can be Chosen**

- ✓ Business Administration
- ✓ Bio Medical Engineering
- ✓ Astronomical Instrumentation
- ✓ Industrial Automation
- ✓ Electronics Design and Technology
- ✓ Process Control
- ✓ Embedded Systems
- ✓ Robotics
- ✓ Control and Instrumentation
- ✓ Remote Sensing and Wireless Sensor Networks
- ✓ Computer Vision and Image Processing
- ✓ VLSI design

## **Additional Steps to be taken apart from curriculum study :**

- Value Added Courses on PLC, SCADA, Robotics, Embedded Systems, Automation, Sensors
- Internships / In Plant trainings in industries related to area of interest
- GATE / GRE Coaching Classes
- English Vocabulary Improvement
- Learn any 2 foreign languages

## SUCCESSFUL ALUMNI

We have a very good network and interaction with our distinguished alumni. They keep feeding us to bridge the gap between the academics and the present industrial scenario, thereby nurturing us consistently to keep us abreast of the updating technologies. Few of our Distinguished Alumni are :

Name	Current Position
Gowtham N	Pursuing <b>MS in Biomedical Engineering at Hochschule Anhalt &amp; martin Luther Universitat, Germany</b>
Sandeep R	Software Engineer at <b>Infosys Limited, Mysore</b>
Prasanna Venkatesh K S	Instrumentation Engineer Yokogawa India Pvt Ltd., Bangalore
Vivek S	Pursuing <b>MSc in Industrial Communication &amp; Automation at Manchester Metropolitan University, UK</b>
Mani R	Graduate Trainee, <b>ISRO, Trivandrum</b>
Saravanan M	Engineer, <b>BIOCON, Bangalore</b>

## GENERAL RULES

1. Every student shall maintain exemplary discipline at all times both within the campus and outside, failing which suitable action will be taken.
2. Students shall not leave the classrooms during the class hours without proper permission.
3. Students shall not make any noise while moving from classroom to classroom.
4. Meetings, of any kind, shall be organized only after obtaining prior written permission from the Principal.

5. Students shall not collect any money for any purpose from anybody without obtaining prior written permission from the Principal.
6. No notice of any kind shall be circulated by the students or pasted anywhere in the College campus without prior permission from the Principal.
7. No student shall take part in any type of political related activity.
8. As per the directions of the Honourable Supreme Court of India, UGC has issued very strict instructions regarding RAGGING. Any Student found or reported to have indulged in or encouraged ragging will be dismissed from the College and legal steps will be taken. The ragging incident will also be reported to the University and Commissioner of Police for further action. This will also be incorporated in Transfer Certificate. Therefore, students are strictly instructed not to indulge in ragging in any form, either inside or outside the Campus.
9. Smoking as well as consuming any form of intoxicants is strictly prohibited within the campus.
10. Students shall not conduct themselves in any manner, which may bring discredit to the College/University.
11. In academic and disciplinary matters the decision of the Principal is final.
12. Students should be punctual to the classes.
13. Students shall not get absent themselves from classes without proper leave applications duly signed by parents / guardian / warden.

14. Application for leave in the prescribed format shall be submitted personally to the concerned faculty advisor before availing the leave.
15. Permission to leave the college premises during working hours can be granted only by the Principal or concerned HOD, usually on production of a letter of request from the student
16. Medical certificate should be produced for more than three days of sick leave and the student should produce proper evidence for any other type of leave.
17. All students should help in maintaining the campus clean.
18. Students should park their vehicles only at the space meant for parking.
19. Wearing of Helmet is compulsory for those who are coming to college by two wheelers
20. All students are required to carry their valid Identity Cards issued to them by the institute.







## Contact Us

Dr P Manju  
HOD / ICE

Ph : 7402600170

E mail : [p.manju@skct.edu.in](mailto:p.manju@skct.edu.in)

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Kovaipudur, Coimbatore - 641042  
Tamilnadu