



# DOEACC CENTRE - AURANGABAD

(An Autonomous Body of Dept. of Information Technology, Ministry of  
Communications & Information Technology, Govt. of India)  
University Campus, Aurangabad – 431 004 (M.S.)  
Phone: 0240 - 2400120, 2400121 Fax: 0240 - 2400051  
email- aurangabad@doeacc.org.in

Course Title : **PCB FABRICATION TECHNIQUES**

## **Objectives:**

This course aims at introducing Electronics Engineers & Lectures the importance of PCB fabrication. It also describes theoretical & practical inputs required to industry & practices the correct techniques for production of reliable PCB's

## **Contents:**

- Manual Art Work Design
- Photo Printing
- Image Transfer
- Screen Printing Techniques
- Etching Techniques & Types
- Tinning Techniques
- Drilling Methods
- Practical fabrication of single side and double side PCB's with and without PTH.

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

EMS 2 – Electronics Manufacturing



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Course Title : **PCB DESIGN AND FABRICATION**

## **Objectives:**

This course aims at introducing Electronics Engineers & Lectures the importance of PCB design fabrication. It also describes theoretical & practical inputs required to industry & practices the correct techniques for production of reliable PCB's

## **Contents:**

- Manual Art Work Design
- Role of CAD in PCB Design and Fabrication, Getting started on CADSTAR, Introduction to standards used for PCB Design and fabrication.
- Design factors, Schematic Design using schematic capture tools, Which enables to design electronic circuits and creates a schematic drawing, PCB Design, Routing, Design output, Documentation.
- Basic Design Rules
- Photo Printing
- Image Transfer
- Screen Printing Techniques
- Etching Techniques & Types
- Tinning Techniques
- Drilling Methods
- Practical fabrication of single side and double side PCB's with and without PTH.

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

02 Weeks

## **Code and Area of the Course:**

EMS 3 – Electronics Manufacturing



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Course Title : **COMPUTER AIDED PCB DESIGN**

## **Objectives:**

CADSTAR being one of the latest software for PCB designing provides the powerful solution available in the world of PC based PCB design. CADSTAR tools are on hand tools to guide through design process & dynamically increase productivity along the way from single aided to complex SMT and multilayer design.

## **Contents:**

- Role of CAD in PCB Design and Fabrication, Getting started on CADSTAR, Introduction to standards used for PCB Design and fabrication.
- Design factors, Schematic Design using schematic capture tools, Which enables to design electronic circuits and creates a schematic drawing, PCB Design, Routing, Design output, Documentation.

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

EMS 1 – Electronics Manufacturing



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Course Title : **Surface Mount Technology**

**Objectives:**

The most advanced training to keep up with the changing demands of SMT.

**Contents:**

Basics of SMT: Training Manufacturing Personnel  
Concepts of Troubleshooting SMT Processes and DFM  
Concepts of BGA Rework Repair  
Introduction to SMT Design  
Introduction to SMT Manufacturing  
Concepts of SMT High Density Design and DFM  
Concepts of PCB Design of High Speed Circuits  
Concepts of BGA Design

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

01 Week

**Code and Area of the Course:**

EMS 4 – Electronics Manufacturing



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Course Title : **VHDL for Digital Designers**

## **Objectives:**

## **Contents:**

- Digital design concepts
- Information processing
- Logic families· Minimization techniques
- Schematic design
- FSM Design
- FPGA/CPLD architectures
- VHDL Simulation and synthesis
- VDDL implementation and Downloading

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

VLSI 1 - Simulation



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Course Title : **Simulation, foundations for Analog chip design**

## Objectives:

## Contents:

- Digital design concepts
- Information processing
- Logic families
- Minimization techniques
- Schematic design
- FSM Design
- Test bench writing
- Wave from viewer
- FPGA/CPLD architectures
- VHDL Simulation, and synthesis constraints
- VDDL implementation and Downloading · Timing issues
- Analog design concept
- Signal handling guidelines in compatibility

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

01 Week

## Code and Area of the Course:

VLSI 2 - Simulation



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Course Title : **Certificate Course in VLSI Design (Digital System Design)**

**Objectives:**

**Contents:**

- Data converters ADC/DAC
- PWM- Signal handling guidelines and compatibility issue of system design
- Analog design concepts
- Grounding shielding Guarding Noise etc. issues
- Logic families Digital fundamentals-Combinational and sequential Logics- Timing issues met stability
- Racing etc.
- Digital system design RTL
- Arithmetic and Logic Microprocessors
- Memories and memory controllers
- CISC and RISC Architecture
- Micro peripherals
- Advanced Digital System Architectures etc.
- FPGA/CPLD Architectures
- Schematic and FSM Design
- VHDL: Simulation and synthesis-IEEE1076 VHDL93 LRM theory, Test benches, Implementation P & R
- TCL scripts
- Timing reports
- Downloading etc.
- Verilog : Simulation and synthesis-
- Concept of networking
- Distinction between Networked and standalone product
- Network topologies
- OSI Network Module
- Bus standards Protocols : RS 232/485, ISE/EISA, PCI, 12C, TCP/IP, IEEE802 LAN, IEEE 488 GPIB etc.
- Multiplier/MAC Unit for DSP filters
- FIR & IIR filters for DSP
- Fundamentals of Embedded systems
- SoC Designs
- ASIC design issues
- CMOS VLSI design
- Board Design & Fabrication
- Board Debugging using Logic Analyzer, DSO/CRO, DMM etc

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

22 Weeks

**Code and Area of the Course:**

VLSI 3 - Simulation



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Course Title : **Certificate Course in Network Security**

## **Objectives:**

## **Contents:**

- Network Security Management-Overview
- Network security policy
- Advanced TCP/IP
- Network Security Management-Key Issues
- Vulnerabilities - Windows Systems
- Security through Network level Access Control
- Security through Encryption

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

ITS 1 – Information Technology



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Course Title : **Linux and Network Security**

## Objectives:

## Contents:

- Understanding GNU/Linux
- X window system and Gnome GUI
- Text processing - vi editor
- Printing commands and Utilities
- Using network application and Utilities
- Basic Shell programming, sed, awk
- Installation and Configuration
- Configuring NFS Clients and autofs
- Integrating Workstation with Network
- Printing subsystem and services
- System log maintenance
- Install, upgrade, query and remove RPM
- Memory, Process & performance Management
- Basic troubleshooting
- DNS/BIND DNS
- Window Clients
- Apache Web Server
- Sendmail
- FTP services
- Introduction to security
- Local Security
- Password security & encryption
- Service-based security & Firewalls
- Network Security Management-Overview- Network security policy
- Advanced TCP / IP
- Vulnerabilities - Windows Systems
- Security through Encryption
- Bash shell and Linux commands
- Linux file system and file maintenance and processing
- Pattern matching and filters
- Control system Processes and Query Package
- Communicating and file transfer
- Installing Linux
- Controlling system hardware and file system
- User and Group Administration
- NIS, DNS and DHCP Services
- Automating Tasks with at, cron, & anacron
- Backup File system to tape and tar
- Configuring window System Gnome
- Configuring Host Security
- Linux Networking & Configuration
- SAMBA file & print sharing
- NIS
- DHCP
- NFS
- pppd Internet configuration
- Developing Security Policy
- File & file system security
- Process security & System monitoring
- Security Tools
- Network Security Management-Key Issues
- Security through Network level Access Control

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

12 Week

## Code and Area of the Course:

ITS 2 – Information Technology



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Course Title : **Fiber Optic Techniques & Applications**

## **Objectives:**

## **Contents:**

- Optical fibers - An introduction
- Optical sources and detectors
- Fabrication of optical Fiber and cabling- Measurement techniques for optical fibers
- Communication system design
- Study of OTDR, splicing machine, Optical attenuator
- Fiber optic sensors and applications in industries
- Fiber optics - Scope for new industries

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 week

## **Code and Area of the Course:**

OPTO 1 – Opto Electronics



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Course Title : **Certificate Course in Power Electronics (part time)**

## **Objectives:**

## **Contents:**

- **Motors** : Principles of Operation, Types of DC and AC Motors, Characteristics, Dynamic braking, Induction Motors, Star-Delta Starter.
- **DC Drives** : Types of convertors, Protection, Current Limiting, Choppers, MCBs, Fusers, DCCT etc.
- **Power Devices** : Switching Models, Gain, Characteristics and Protections.
- **Transformers**: Principle of Operation, Losses, Design.
- **SMPS**: Principle of Operation and Design, Windings, High speed, High Frequency, Skin effect, PWM and Protections.
- **Power Supply Design**

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

05 Week

## **Code and Area of the Course:**

PE 1 – Power Electronics



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Course Title : **Certificate Course in Power Supply Design (Part time)**

## **Objectives:**

## **Contents:**

- Switch in Diodes
- Different types of filter
- Zener regulated power supply and series regulated power draw backs
- Advantages of SMPS
- Design of Series regulated power supply
- Design of Switch mode power supply- Comparison of different SMPS topologies, isolated and non-isolated topologies.
- Use of input AMI filer
- High frequency transformer design
- Ferrite core high frequency transfers and inductors
- Pulse width modulation technique- Current sensing over current limiting and shut down methods

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

PE 2 – Power Electronics



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Course Title : **PC Hardware Maintenance**

## **Objectives:**

## **Contents:**

- Introduction to computers and its classification.
- Detailed function of motherboard, common faults in motherboard and its rectifications
- Detailed study of adapter cards; IDE controller card, SCSI card, SVGA/VGA/CGA/EGA card, winchester disk controller card etc.
- Various common faults and way of fault finding in PC's
- Peripherals: Detailed working, fault finding of peripherals like keyboard, floppy drive, harddisk, printer, SMPS, servo stabilizer, UPS etc.
- Technical DOS: Loading of DOS, Introduction to device drivers, TSR programme & their utilities. Assembly language programming.
- Diagnostic packages & their study.
- Latest trends in PC hardware maintenance.

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

01 Week

## **Code and Area of the Course:**

OTH 1 – Information Technology



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Course Title : **AutoCAD - 2D & 3D (Part Time) (Mech.)**

## Objectives:

## Contents:

- User Interface
- Layers Management
- Construction Line
- Hatch
- Offset
- 2d Hide
- Automatic Dimensioning
- Dimension Edit Functions
- Library
- Learn How To Insert A Version List
- Learn How To Create Balloons
- Learn How To Create A Parts List
- Holes/Fits Description
- Scale Monitor
- Coordinate System
- 3D Views
- Wire frame Modeling
- 2D from Solid
- Configuration
- Extend Autocad Setting
- Symmetrical Line
- Copy Multiple
- Join Entities
- Scale Xy
- Hole Chart
- Extended Block Editor
- Learn About The Drawing Border And Title Block
- Learn How To Create And Edit a Part a reference
- Learn How To Create A Bom Database
- Holes
- Associative Detail
- Viewport Auto Create
- Boolean Function
- Paper space
- Surface Modeling
- Operating System
- Drawing Functions
- Contour Finder
- Copy +Rotate+Move
- Break
- Power Dimensioning
- Fits List
- Auto Detaling
- Symbols
- Viewport / Scale Area
- Zoom All Viewports
- Variables
- Model space
- Solid Modeling

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

08 Week

## Code and Area of the Course:

IDS 1 – Industrial Design



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Course Title : **AutoCAD - 2D & 3D(Part Time)(Civil & Arch.)**

## Objectives:

## Contents:

- User Interface
- Layers Management
- Construction Line
- Hatch
- Offset
- 2d Hide
- Automatic Dimensioning
- Dimension Edit Functions
- Library
- Learn How To Insert A Version List
- Learn How To Create Balloons
- Learn How To Create A Parts List
- Holes/Fits Description
- Scale Monitor
- Coordinate System
- 3D Views
- Wire frame Modeling
- 2D from Solid
- Configuration
- Extend Autocad Setting
- Symmetrical Line
- Copy Multiple
- Join Entities
- Scale Xy
- Hole Chart
- Extended Block Editor
- Learn About The Drawing Border And Title Block
- Learn How To Create And Edit a Part a reference
- Learn How To Create A Bom Database
- Holes
- Associative Detail
- Viewport Auto Create
- Boolean Function
- Paper space
- Surface Modeling
- Operating System
- Drawing Functions
- Contour Finder
- Copy +Rotate+Move
- Break
- Power Dimensioning
- Fits List
- Auto Detailing
- Symbols
- Viewport / Scale Area
- Zoom All Viewports
- Variables
- Model space
- Solid Modeling

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

08 Weeks

## Code and Area of the Course:

IDS 2 – Industrial Design



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Course Title : **AutoCAD - 2D & 3D(Full Time), (Mech.)**

## Objectives:

## Contents:

- User Interface
- Layers Management
- Construction Line
- Hatch
- Offset
- 2d Hide
- Automatic Dimensioning
- Dimension Edit Functions
- Library
- Learn How To Insert A Version List
- Learn How To Create Balloons
- Learn How To Create A Parts List
- Holes/Fits Description
- Scale Monitor
- Coordinate System
- 3D Views
- Wire frame Modeling
- 2D from Solid
- Configuration
- Extend Autocad Setting
- Symmetrical Line
- Copy Multiple
- Join Entities
- Scale Xy
- Hole Chart
- Extended Block Editor
- Learn About The Drawing Border And Title Block
- Learn How To Create And Edit a Part a reference
- Learn How To Create A Bom Database
- Holes
- Associative Detail
- Viewport Auto Create
- Boolean Function
- Paper space
- Surface Modeling
- Operating System
- Drawing Functions
- Contour Finder
- Copy +Rotate+Move
- Break
- Power Dimensioning
- Fits List
- Auto Detaling
- Symbols
- Viewport / Scale Area
- Zoom All Viewports
- Variables
- Model space
- Solid Modeling

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

02 Week

## Code and Area of the Course:

IDS 3 – Industrial Design



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Course Title : **Engineering Graphics Auto CAD & MDT(Part Time)**

## Objectives:

- Related software Auto cad & MDT
- A0 size plotter
- Laser printer
- HP work stations
- Over head projector
- Video projector
- Air conditioned class room
- Well equipped lab
- Library

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

08 Week

## Code and Area of the Course:

IDS 4 – Industrial Design



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Course Title : Solid & Surface Modeling CATIA V5 R12 (Part Time)

## Objectives:

### Contents:

- Basic Drafting
- Adding Views
- More Drawing Views-
- Adding & Editing Section and Isometric Views
- Adding Drawing Borders
- Callouts Editing
- Dimensioning
- Positioning & Editing Dimensions
- ANNOTATIONS ·
- Balloon Generation and Addition Annotations
- DRESS- UPS
- Thread Creation and Addition
- Clipping and Breakout Views
- 2D Components
- Geometric Creation
- Splines & Conics
- Re\_limitations and Constraints
- Folding Lines and View planes
- Customizing Your Drawing Sheet
- Creating Drawings
- Using the View Wizard
- Creating Details and Auxiliary Views
- Editing Drawings
- Positioning Views-
- Detailing Your Drawing
- Generating and Adding Dimensions Types
- Adding Geometric Tolerance and Datum features
- Adding & Editing Text
- Adding Roughness and Welding Symbols- Editing
- Center Line And Axis Additions
- FURTHER DRAFTING TOOLS
- Bill of Material Additions
- INTRACTIVE DRAFTING
- Point, Line, Circle, Predefined Profiles
- Corners and Chamfers
- 2D Views additions
- DRAFTING PREFERENCE
- Border Creation and Editing

### Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

### Duration:

08 Week

### Code and Area of the Course:

IDS 5 – Industrial Design



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Course Title : **Diploma in Embedded System Design**

## Objectives:

## Contents:

### Introduction to embedded system and Programming Concepts

- Embedded Systems Design
- Data Structures
- Implementation and Testing
- Review of C-Programming
- Software Life Cycle Models
- Project Management

### 8/16 bit Microcontrollers and Interfacing

- RISC/CISC and Harvard/Princeton Architectures
- Types of Memories- Introduction to 8-bit Micro controllers from Microchip (PIC16CXX series)
- Timers/Counters, UART, SPI, PWM, WDT, Input Capture, Output Compare Modes, I2C, CAN
- Interfacing LED, Switches, ADC, DAC, LCD, RTC
- Emerging Bus Standards (USB, Compact PCI)
- Introduction to 16/32-bit Processors
- MSP 430 Programming Model
- Embedded System Design Issues
- Assemblers, Compilers, Linkers, Loaders, Debuggers
- Utilities like make, ranlib, objcopy & objdump
- Building RTOS/EOS Image for Target Hardware Systems
- Writing Time & Space Sensitive Programs
- Programming in Assembly and C (GNU Tools)
- MSP 430 Architecture & Organization
- MSP 430 Instruction Set
- Challenges & Trends in Embedded Systems
- Profilers & Test Coverage Tools
- Configuring & Building GNU Cross-Toolchain
- Porting RTOS & Embedded Operating
- Writing Device Drivers

### Real-Time Operating Systems

- Introduction to OS
- Memory management- I/O subsystem- File System Organization /Embedded Operating Systems.
- Real Time Scheduling
- Linux & RTLinux Internals
- Configuring & Compiling RTLinux
- Process Management & Inter
- Introduction to Real-Time
- Performance Metrics of RTOS
- Programming in Linux & RTLinux
- Overview of other RTOS

### Project and Seminar

The students are assigned a project work for the duration of one month. Also, as a part of the curriculum, they are required to conduct a seminar on a topic relevant to the Embedded Systems Design. Special credit is given for the project work and seminar.

### Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:** 16 Week

**Code and Area of the Course:** EMSD 1 – Embedded System



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Course Title : **Computer Hardware & Networking**

**Objectives:**

**Contents:**

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

02 Week

**Code and Area of the Course:**

IT1 – Information Technology



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Course Title : **Multimedia & Web Designing**

## Objectives:

## Contents:

- Introduction to Computers
- Application S/W
- Introduction to various Image Editing S/Ws
- Image Scanning / Capturing / Storing
- Image Editing
- Sound Engineering
- Recording/Capturing / Storing Sound
- Sound editing
- Creating Various effects using Animation of Web
- Video Engineering
- Recording/Capturing / Storing Video
- Multi Media Authoring Tools
- Introduction to Web basics, HTML & Browsers
- Website Designing using Web authoring tools
- Uploading / Downloading
- Basic H/W
- H/W requirement
- Basics of Scanner / Digital Camera
- Image Basics / Various Parameters
- Image Morphing / Making AVI files
- Basics of Sound
- Various formats of Sound
- 2D Animation
- Basics of Video
- Various formats of Video
- Multimedia Presentation
- Assignment on each topics
- Operating System
- Graphics / Image Editing
- Diff. Parameters of Sound
- Adding effects mixing
- Animation Basics
- Using GIF Animator
- Various parameters of Video
- Adding various effects
- Web Designing
- Online / Offline browsing
- Creating your own Website

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

12 Week

## Code and Area of the Course:

IT2 – Information Technology



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Course Title : **Windows 2003 Server Administration**

## Objectives:

## Contents:

- Computer H/W Overview
- NIC
- HDD and other resources
- The Basic Network
- Various Networks
- Hubs, Bridges, Switches, Routers etc.
- Protocols
- Token Passing
- Cables, Wires and Fibers
- Noise
- Length, Losses, Insulation
- Cross Talk
- Optical Fibers / Optical Link
- Thick / Thin Cable Ethernet
- Packet
- Addresses
- A Typical System- Memory- I/O Ports
- OS and NOS
- Network Overview :
- Why Networks?
- Network Topology
- OSI Layers
- Media Access
- CSMA / CD
- Networking Cabling
- Wires and High Frequencies
- Coaxial / Twisted Pair Cables
- Wireless LAN
- Ethernet and Token Ring :
- Twisted Pair Ethernet
- Physical Ring / Ring Operation / Ring Priority
- Installation & Administration of Windows 2000

## Participation Level:

Science or Engineering Degree / Diploma in Electronics or Electrical.

## Duration:

01 Week

## Code and Area of the Course:

IT3 – Information Technology



# DOEACC CENTRE - AURANGABAD

(An Autonomous Body of Dept. of Information Technology, Ministry of  
Communications & Information Technology, Govt. of India)  
University Campus, Aurangabad – 431 004 (M.S.)  
Phone: 0240 - 2400120, 2400121 Fax: 0240 - 2400051  
email- aurangabad@doeacc.org.in

Course Title : **Electrical & Electronics Instrumentation**

**Objectives:**

**Contents:**

- Concepts of : Electrical voltage, Current, Frequency, Power, Power factor and Energy, R.M.S. Average and Peak Values of A.C.
- Transducers and Sensors and Their Signal conditioning
- Principle of analog volt meter and ammeter
- Analog to Digital and Digital to Analog Conversion principle.
- Instrumentation amplifier and signal conditioning circuits

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

01 Week

**Code and Area of the Course:**

AEC1 - Agri Electronics Instrumentation & Control



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Phone: 0240 - 2400120, 2400121 Fax: 0240 - 2400051  
email- aurangabad@doeacc.org.in

Course Title : **Study of Equipment of Agri & Agro based Industry**

**Objectives:**

**Contents:**

- pH meter, conductivity meter, humidity meter, soil moisture meter, flame photo meter, temperature meter.
- Concepts of Electrical voltage, current, power, rms and average values.
- Study of motors.

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

01 Week

**Code and Area of the Course:**

AEC2 - Agri Electronics Instrumentation & Control



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Phone: 0240 - 2400120, 2400121 Fax: 0240 - 2400051  
email- aurangabad@doeacc.org.in

Course Title : **DOEACC Bio Informatics BI 'O' Level Courses**

**Objectives:**

**Contents:**

- IT Tools and application
- Programming through C language
- Basic Bio-informatics
- Foundation course in modern biology
- Project

**Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

**Duration:**

52 Week (1 Year)

**Code and Area of the Course:**

BIO – General STC



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Phone: 0240 - 2400120, 2400121 Fax: 0240 - 2400051  
email- aurangabad@doeacc.org.in

Course Title : **DOEACC Bio Informatics BI 'A' Level Courses**

## **Objectives:**

## **Contents:**

- IT Tools and application
- Programming through C language
- Basic Bio-informatics
- Foundation course in modern biology
- Mathematics Probability and statistics
- Introduction to Database and Web Enabling
- Programming in PERL and application to Bio-informatics
- Introduction to Object Oriented Programming through JAVA
- Element of Protein Sequences, Structure and Modeling
- Basics of Genomics and Proteomics

## **Participation Level:**

Science or Engineering Degree / Diploma in Electronics or Electrical.

## **Duration:**

52 Week (1 Year)

## **Code and Area of the Course:**

BIA – General STC