



DOEACC CENTRE CALICUT
COURSE PROSPECTUS

CDS/CA/7.5.1/F 40/R0

Name of the Group: **PEG**

Name of the Course: *Certificate course in Hardware System Design (On-line course)*

Course Code: PD601

Starting Date: 18th October 2010

Duration: **4 weeks**

Preamble: To become a professional designer one should have the requisite knowledge, and the skills for applying this knowledge to solve real life problems. However it may be difficult to combine the studies/ work with the training for acquiring these. Acquiring these skills along with your regular degree will help you become industry ready and brighten your chances of getting better placement.

Objective of the Course: DOEACC Calicut offers on line training as a flexible and cost effective alternative to site based training. The on line certificate course in Hardware System Design helps you to learn the skills you need to become a professional hardware system designer at home/work place, at your own pace.

Outcome of the course: After completing the course the participants will be able to design and develop complete 8051 microcontroller based system including the software that goes into it. They will get an exposure in the usage of EDA tools and other design and development tools

Course structure: The Course starts with basic electronics, and gradually takes you through the use of test and measuring instruments, PCB design and fabrication process, use of EDA tools, X51 μ C architecture, instruction set, embedded programming in Keil C, RTOS concepts, interfacing LCDs, Key board, ADC/DAC, RTC, EEPROM etc. and ends with a mini project to practice the skills you learned.

The students can pursue this online course parallel to their study/work from their home/office. The course is delivered in eLearning mode using a Learning Management System called Moodle. The efficient evaluation methods and customized feedback ensure that the participant gets a true feedback on their performance. The total marks for the course and the grading strategy are announced at the beginning of the course. After every week the result of that week activities will be published.

Other Contents

- a. **Course Fees :** ₹ 5,850/- (service tax extra @10.3%)
Admission fee: ₹ 250/-

- b. **Eligibility :** Students undergoing/completed BE/B. Tech./Engineering Diploma in Electronics Electrical/Instrumentation / M. Sc./B. Sc. (Electronics) are eligible.

The availability of a PC (Windows XP or later, minimum 512MB RAM, 20GB HDD, 2.4GHz processor or better), multimedia speakers/head phones with Broadband Internet Connection at the student's end is compulsory to attend this course



DOEACC CENTRE CALICUT
COURSE PROSPECTUS

CDS/CA/7.5.1/F 40/R0

Participants can download and install evaluation versions of most of the application packages covered in the course such as those for hardware and software development or simulation, PCB design etc from their respective web sites. If the participants have access to 8051 development board with programmer, it will be an added advantage during peripheral interface design exercises.

- c. **Number of Seats : 20**
SC/ST candidates and persons with disabilities are eligible for seat reservation and minimum marks for eligibility.
- d. **How to Apply :** Students are advised to apply in the prescribed Application Form available with the course brochure/course prospectus or downloaded from our website. Filled in application forms along with a Demand Draft towards advance fee of ₹1000/- drawn in favour of Director, DOEACC Centre, Calicut, Payable at State Bank of India, NITC Branch, Chathamangalam should be sent to the Training Officer, DOEACC Centre Calicut, P. B. No. 5, NIT Campus Post, CALICUT – 673 601, Kerala. The Name of the Course applied, should be super scribed on the envelop, in which the application form is forwarded.
- e. **Selection of candidates:** Selection of candidates will be based on their marks in the qualifying examination subject to eligibility and availability of seats. Selection of candidates who have completed the course but expecting the results/those who are undergoing the course shall be based on aggregate of the marks obtained up to the period for which results are declared subject the availability of seats. The list of selected students shall be published in our website. Individual call letters by **email alone** will be sent to the candidates.
- f. **Test/Interview (if applicable) :N/A**
- g. **Counseling: N/A**
- h. **Admission Procedure:** The list of selected students shall be published in our web site on 5-Oct-2010. The selected candidates should send the following documents to the Training Officer on or before 14-Oct-2010 in the address below.

List of Documents

1. Duly filled in Application Form downloaded from our site (applicable only for those who have applied online)
2. Duly Filled in Checklist & Enrollment Form downloaded from our website.
3. Attested Copies of Proof of Age, Qualifications, Two passport size photos out of which one has to be affixed in the Application form.
4. SC/ST Certificate (if applicable)
5. Income Certificate (if applicable)



6. Payment (Modes of payment given below)

Address

Training Officer, DOEACC Centre Calicut,
P. B. No. 5, NIT Campus Post,
CALICUT – 673 601, Kerala.

The course name, “*Certificate course in Hardware System Design(On-line course)*” should be superscribed on the envelop.

After certificate verification and receipt of fees the student is admitted to the course. Intimation for the same will be communicated to the student by email, together with the login credentials of the Learning Management System on 18-Oct-2010.

Modes of payments

1. Demand Draft to be drawn in favor of Director, DOEACC Center Calicut, Payable at State Bank of India, Calicut NIT Branch(2207). The DD should reach here before the last date to apply.
2. Using the pay in slip available in our web site (Pay in slip), through any branch of SBI (where this format is accepted). The original counterfoil should reach here before the last date to apply.
3. The fees can be paid directly into our account from any bank where core banking facility is available. The details required for direct payment are as given below.

- Current Account No: 10401158037
- Bank Name: SBI, NIT Chathamangalam
- Bank Code: 2207
- IFSC No: SBIN0002207

The depositor should obtain the UTR Number/Journal No from the branch while depositing cash directly into our account. Depositor should also obtain the counterfoil duly filled up and signed by the staff with seal of the bank through which the amount was deposited. The following details should reach here before the last date to apply.

1. Name of the Depositor
2. Name of the Student
3. Date of Payment
4. Amount Deposited
5. Name of Bank/branch through which amount deposited
6. Purpose – Course ID – Advance Fee/Hostel Rent/Installment Fee etc.
7. Proof of Deposit (original counterfoil/acknowledgement)
8. UTR Number



DOEACC CENTRE CALICUT
COURSE PROSPECTUS

CDS/CA/7.5.1/F 40/R0

- i. **Discontinuing the course:** No fees under any circumstances shall be refunded in the event of a student discontinuing the course. Certificates will be issued to the successful candidates at the end of the course by post.
- j. **Course Timings:** The student can take the course any time of his choice round the clock.
Minimum 3-5hrs/day @32hrs/week work is recommended.
- k. **Location and How to reach :** N/A
- l. **Course enquiries :**
Students can enquire about the various courses either on telephone or by personal contact between 9.15A.M. to 5.15P.M. (Lunch time 1.00 pm to 1.30 pm).
Telephone Numbers: Office 0495 - 2287266 / 2287268
Director's Office 0495 - 2287123
Training Officer 0495 - 2287266
Course Coordinator 0495 - 2287179 (Ext. 224)
Office Fax 0495 - 2287168
E-mail: trng@doeaccalicut.ac.in
Website: www.doeaccalicut.ac.in
- m. **Important Dates:**
 - a. Last date to submit the application form: 4-Oct-2010
 - b. Selection Intimation in the web site: 5-Oct 2010 after 5 p.m.
 - c. Last date for receipt of attested copies of certificates & Payment: 14-Oct 2010
 - d. Commencement of classes: 18-Oct- 2010
- n. Placement : Placement support will be provided.
- o. Hostel Facilities:N/A
- p. Canteen Facilities:N/A
- q. Lab Facilities:N/A

Course Contents : (Online Course)

Basic Electronics

Linear ICs, OP Amp
Op AMP Applications
Application of transistors & Diodes, Relays usage, Transducer

Test and Measurement Instruments

Digital Multimeters
Oscilloscopes
Function Generators
Logic Probes
Power Meters
Current Probes



EDA Tools

Printed Circuit Boards
Classification of PCBs
PCB Terminology
Schematic Design
Design rules
Layout design of PCB
Routing Strategies
Package: Orcad/Mentor Graphics

Mirocontroller & Peripheral Interfacing

Intel 8x51 Architecture and Instruction Set
Embedded C, RTOS concepts
Peripheral Interfacing – LCD, Keyboard, LEDs/ Buzzer/Relays
7 Segment LED, ADC, DAC, Serial Port, EEPROM, RTC

Lab sessions/Assignments based on Keil C/Proteus

Mini Project