

M. Tech in EMBEDDED SYSTEMS BROCHURE

The M. Tech course in 'EMBEDDED SYSTEMS' is a two-year program. The course focuses on practical design aspects of Embedded Systems. The core and elective papers are practical oriented. One year project work is also part of the course.

Objective of the Course

To mould fresh electronics engineers and to upgrade working engineers into High Caliber Embedded System Designers by enhancing their knowledge and skills in various hardware and software design aspects of Embedded Systems. This course offers a range of topics of immediate relevance to industry and makes the students exactly suitable for industries engaged in Embedded System development. This course is also an excellent preparation for those wishing to engage in application research in this rapidly developing area.

Outcome of the Course

- *Participants get exposure with different families and architectures of Embedded System tools such as Microcontrollers, DSPs, FPGAs, RTOS etc.*
- *Participants shall get the expertise required to design any embedded system hardware and software based on any of the above tools*
- *Participants become highly proficient in Embedded Software particularly in real-time programming*

UNIVERSITY AFFILIATION						
This M.Tech course is affiliated to Calicut University.						
AICTE APPROVAL						
This M.Tech course is approved by AICTE for the year 2009-10.						
DISTRIBUTION OF SEATS						
18 seats are available for this M.Tech. Three seats are reserved for SC/ST and one seat from the general quota shall be reserved for Physically handicapped students. Reservations shall be as per existing government rules.						
General & Physically handicapped (1 seat)		10	SC/ST	3	Sponsored	5
ELIGIBILITY						
<p>a. The candidate should have studied the graduate course in an institution approved by the All India Council for Technical Education.</p> <p>b. The candidate shall have a B.E./B.Tech in Electronics/ Electrical/ Instrumentation subjects awarded by the Calicut University or equivalent there to as approved by the University of Calicut.</p> <p>c. Candidates should have minimum 60% aggregate marks in the engineering degree exam. For SC/ST and Physically handicapped candidates, a pass in the Engineering degree course is sufficient.</p> <p>d. The candidate should have a valid GATE Score in Electronics/ Electrical/ Instrumentation subjects. Non GATE candidates can also apply. Preference shall be given to GATE qualified candidates. GATE score is not essential for Sponsored candidates.</p> <p>e. GATE Candidates who have appeared for the final examination may also apply provided the results are made available on or before 31.10.09. Such candidates may be considered for provisional admission. However, these candidates must have successfully passed at least six semesters of B.Tech. (Engg.) or three years of Engineering studies on the date of application and the application must include attested copies of the mark lists. On the date of counselling/admission, the students under Semester system must have passed all including the Seventh Semester Examination also and he/she shall produce the original Mark lists up to the Seventh Semester Examination, while the candidates under Year system must have passed all including the third year of engineering and he/she shall produce the Original Mark Lists up to the Third Year of Engineering.</p> <p>Any candidate admitted provisionally subject to his/her producing provisional certificate or mark list as proof of having passed the qualifying examination shall have to discontinue the course, if he/she does not produce the above mentioned complete mark list and degree certificate on or before 31.10.09.</p>						
SPONSORED SEATS						
A sponsored candidate must have been in service of the sponsoring organization for at least two years at the time of applying. Their employers must sponsor them and						

	relieve them to pursue the programme for the full duration of the course. Candidates from Central/State Govt. Institutions, Public Sector Organizations and reputed Private Organizations will be considered in this category. Teachers sponsored from AICTE recognized Engineering Colleges and Polytechnics will also be considered in this category.							
SELECTION OF CANDIDATES								
	<p>Selection of candidates who have qualified in GATE will be based on their GATE Score subject to eligibility and availability of seats. The admission to the course shall be based on the following criteria:</p> <ol style="list-style-type: none"> 1. Should have passed the B.Tech/B.E course 2. Candidates should have minimum 60% marks. 3. SC/ST and Physically handicapped Candidates should have minimum pass mark. 4. In case sufficient GATE qualified students are not there, these seats shall be filled with NON GATE candidates the selection of which shall be based on a separate interview and or test. 5. For sponsored candidates, minimum 2 years of experience is required and they should produce the necessary certificates. 6. For Sponsored Candidates GATE Score is not required. Selection of these candidates is based on marks in the qualifying examination and or performance in the interview. 7. The counseling/admission will be on 15-07-2009. Individual call letters will not be sent to the candidates for counseling/admission. All those who are applying for the course have to come prepared for counseling and admission on 15-07-2009 with the original mark lists, certificates and other necessary documents. 8. Admission is subject to satisfying the requirements and availability of seats. Attending the counseling does not guarantee admission. 9. Candidates offered admission would have to remit the one-year fees or atleast one-semester fees on the same day of counseling, failing which the admission is not guaranteed. 							
FEES								
	Fees shall be Rs 45,000/- towards tuition fees per semester and approximately Rs 7,000/- per year towards University affiliation. Refundable caution deposit is Rs 5,000/-. Examination and other university fees shall be extra.							
	Sem1	57,000/-	Sem2	45,000/-	Sem3	52,000/-	Sem4	45,000/-
RECOGNITION CERTIFICATE								
	For candidates with qualifying degree from Universities and Deemed universities outside Kerala, Equivalence certificate from the Calicut University is required for admission. Only those candidates who are offered admission need to produce the equivalence certificate. It has to be produced within a day of the admission (on or before 16 th of July) failing which the admission is lost. Those candidates desirous of knowing whether their university is recognized may check with the university with the following details.							

	<ol style="list-style-type: none"> 1. Degree Name 2. Branch of Degree 3. Name and address of the University 4. Name and address of the College 5. Year of passing <p>The fee for Equivalence certificate is Rs 250/- and for recognition, Rs 50/- which has to be paid by chalan or by DD payable in favour of 'Finance Officer, University of Calicut' payable at SBT, Tenhipalam.</p>
MIGRATION CERTIFICATE	
	<p>All students admitted for the course from Universities other than Calicut University have to produce the migration certificate after joining the course.</p>
SCHOLARSHIP	
	<p>All GATE qualified candidates are eligible for teaching assistantship (TA) subject to AICTE and MHRDE guidelines. This facility will not be available to sponsored Candidates, Foreign Nationals and Dependants of NRIs. Disbursement of TA will only be done after the Govt. of India makes funds available. As per MHRD directives fellow holding TA ship shall not accept or hold any appointment paid or otherwise or receive any emoluments, salary, stipend etc from any source during the tenure of the award.</p> <p>The students joining the programme under this category will be considered for Teaching Assistantships of Rs. 8,000/- per month, based on the following norms:</p> <ol style="list-style-type: none"> (a) Students getting assistantship will be required to assist / work for courses, laboratory, or any other related academic / administrative work to the extent of 8 hours per week. (b) The assistantship will be available for a maximum period of 24 months and students with TA have to complete M.Tech in two years. (c) Assistantship will be paid on the basis of monthly attendance.
DISCONTINUING THE COURSE	
	<p>Any candidate, who has joined and wants to discontinue due to any reasons after closing of admissions, shall have to pay the full fees for the first two semesters to get the certificates back. Any candidate admitted provisionally and has to discontinue the course since he/she does not produce the complete mark list and degree certificate on or before 31.10.2009 will also have to pay the full fees for the first two semesters to get the certificates back.</p>
RAGGING CASES	
	<p>In case the applicant for admission is found to have indulged in ragging in the past his/her admission shall be refused or if it is noticed later that he/she has indulged in ragging in the past or is indulging in ragging during the period of the M.Tech course duration, the concerned student shall be given liberty to explain and if his/her explanation is not found satisfactory, his/her admission gets cancelled and the authority would expel the student from the institution. Further he/she has to pay a liquidated damage of Rs. 45,000.00.</p>

HOW TO APPLY?

1. Use only the appropriate Application form for admission to M.Tech programme obtained from DOEACC or downloaded from DOEACC Website www.doeaccalicut.ac.in.
2. Those who want the application form by post have to enclose a self-addressed stamped cover along with the request.
3. A passport size photograph taken not earlier than 3 months is to be affixed on the Application Form. The photo in the application should be self-attested. **Four more copies** of the same photograph and one stamp size photograph should be produced at the time of counseling/admission.
4. The following Documents should be enclosed with the application:
 - i. Attested copy of the GATE Score Card (if applicable).
 - ii. Attested copies of the Mark Lists & Degree Certificate of the Qualifying Examination. In the case of candidates who have appeared or will be appearing in the qualifying examination a Course Certificate from the Head of the Institution and attested copies of Mark Lists up to the pre-final semester/pre-final year.
 - iii. Attested copy of Community Certificate in the case of Scheduled Caste/Scheduled Tribe candidates from a competent authority (not below the rank of a Tahsildar).
 - iv. **Attested copy of proof of Date of Birth**
 - v. Original Sponsorship Certificate in the case of Sponsored Candidates
 - vi. Original Experience Certificate in the case of Sponsored candidates.
 - vii. A Demand Draft of **Rs 400.00 (Rs 200.00 for SC/ST candidates)** towards registration fee in favour of '**Director, DOEACC Centre, Calicut**', payable at State Bank of India, NITC, Chathamangalam Branch (Code No. 2207) if the application form is downloaded from website and the application fee is not remitted.
5. The application with all the above enclosures should be sent by Registered Post/Speed Post so as to reach the

'Coordinator – M.Tech ES, DOEACC Centre Calicut, NITC Campus P.O, Calicut – 673 601 Kerala' on or before 5.30 pm of 30-06- 2009.

COUNSELING

All candidates requesting for admission have to submit the application by post or in person on or before 5.30 pm of 30-06- 2009. They have to be present personally for an interview on 15-07-2009 with all the necessary documents (originals and attested copies). The interview shall be from 10.00 am onwards. Those who fail to submit the application form before 5.30 pm of 30-06- 2009 and those who don't bring the necessary documents (originals and attested copies) on 15-07-2009 are not eligible for interview or admission.

	The selected candidates have to pay the full fees or one-semester fees for registration on the same day. The original certificates and mark lists starting from SSLC or equivalent upto the present qualifying degree have to be submitted. The classes shall commence on 03-08-2009.	
TEST/INTERVIEW		
	A test/interview shall be conducted for selection of NON-GATE and Sponsored candidates on 15-07-2009. There shall not be any separate intimation for the test/interview and all those who apply shall have to be present in person for the test/interview on 15-07-2009.	
IMPORTANT DATES		
	Commencement of Issue of Application Forms	20-04-2009
	Last Date for Issue of Application Forms	30-06-2009
	Last Date for Receipt of Completed Application forms (before 5.30 pm)	30-06-2009
	Counseling/Admission	15-07-2009
	Reporting/Commencement of Classes	03-08-2009
TELEPHONE NUMBERS		
	Office	0495 - 2287266 / 2287268
	Director's Office	0495 - 2287123
	Co-ordinator M.Tech Embedded Systems	0495 - 2287266 / 2287177
	Office Fax	0495 - 2287168
ADDRESS FOR CORRESPONDENCE		
	M.Tech ES Coordinator, DOEACC Centre Calicut, NITC Campus P.O., Calicut - 673 601 Kerala, India	
	Ph:	0495 - 2287177
	Fax:	0495 - 2287168
	e-mail:	mtechadmn@doeaccalicut.ac.in
	Website:	www.doeaccalicut.ac.in
OFFICE TIMINGS		
	The office timings are from 9.00 am to 5.30 pm with half an hour Lunch break at 1.00 pm. Saturday and Sunday are holidays.	
CLASS & LAB TIMINGS		
	This program is a practical oriented one, hence there shall be more lab than the classes. The classes and labs are from 9.30 am to 12.30 pm and 2.00 pm to 5.30 pm Monday to Friday. During project work, the timings are from 9.15 am to 5.30 pm.	
SEMINAR		
	The student has to present a seminar during the first semester	
PROJECT WORK		
	The project work of one-year duration which is part of the course can be done in an Industry or in DOEACC Centre during the third and fourth semester.	

PLACEMENT	
	<p>We have a placement cell, which provides placement assistance to students who qualify our courses. The Syllabus for this M.Tech is prepared in collaboration with reputed Embedded System Companies in Bangalore and Techno Park Trivandrum such as Wipro, GE Power Controls, Robert Bosch, Philips, Texas Instruments, Analog Devices, Wind River, BBS, MindTree, TATA Elxsi, etc. And we shall try for placement at these or other related industries.</p> <p>The previous students are placed in companies such as WIPRO, INFOSYS, BOSCH, SIEMENS, MISTRAL, TATA Elxsi, KYOCERA WIRELESS, CAPTRONICS, GDA Tech, HONEYWELL, SANKHYA TECHNOLOGIES etc.</p>
LAB FACILITIES	
	<p>We have state-of-the art lab facility in Embedded Systems in the country. These Include,</p> <ul style="list-style-type: none"> • Microcontroller Dev. Systems - Intel 8051, 80C196, MPLAB for PIC 16 & 18 series, ARM9, Cygnal, Motorola etc. • KEIL 'C' Development IDE • TI DSP Development Systems –'C6000, 'C5400, 'C5500, 'C243, 'C2812, 'C32, 'C50 etc. • AD DSP Development Systems - 2191, 21065, 21061 (Sharc) DSPs • Code Composer Studio, Visual DSP • VxWorks, RTLinux & QNX RTOS • Xilinx ISE FPGA Design Tools, Leonardo Spectrum, Model Sim Simulator • Matlab, Simulink, TI 'C6000 target for Matlab, • LabView, Universal DATA I/O programmer • PC Based EDA tools (ORCAD) • 500, 350, 300, 100 MHz Digital Storage & Mixed Signal Oscilloscopes • EMI Test Setup, Wireless LAN • Linux for Embedded Applications • Logic Analyzer, SMD Rework station
HOSTEL/CANTEEN FACILITY	
	<p>We provide hostels for both gents and ladies at reasonable rent. The accommodation is a shared one with two participants in a room. A canteen is also functioning inside the hostel and food at reasonable rates is available for break fast, lunch, tea and dinner.</p>
LOCATION & HOW TO REACH?	
	<p>DOEACC CENTRE, CALICUT is located 20 kms away from Calicut City and is functioning in the NITC (REC), Calicut campus. The bus stop is 'CEDT' or 'Panthrandu' and the present bus fare is Rs 10.50 from city.</p>
FACULTY	
	<p>We have well qualified post graduate and graduate people undergone specialized training in various International Universities and Industries in USA, UK, Germany, Netherlands etc. and with many years of experience in Embedded Systems. Further we are providing design and consultancy support for many leading Industries. Many of our embedded development systems are used in educational institutions.</p>