

प्रज्ञानं ब्रह्म



Manipal

INSPIRED BY LIFE

Invest in The Most Valuable Asset: Yourself

Master of Science Programs
for Working Professionals

MANIPAL
UNIVERSITY

We can reach our potential, but to do so,
we must reach within ourselves.
We must summon the strength,
the will, and the faith to move forward - to
be bold - to invest in our future.

John Hoeven
Governor - North Dakota



World of Manipal

Manipal University, a part of the Manipal Education Group, is widely recognized for imparting high quality professional education. Founded 55 years ago by Dr. T. M. A. Pai, Manipal University is located in the bustling student town of Manipal (in Karnataka). Manipal University was the first institute to be recognized as a Deemed University by the Government of India in 1993.

Manipal University offers programmes in Medicine, Dentistry, Engineering, Nursing, Allied Health, Pharmacy, Life Sciences, Management, Mass Communication, Information Sciences, Hotel Management, Regenerative Medicine and many more.

India's top ranked institutions, including Manipal Institute of Technology (MIT) and the Kasturba Medical College (KMC) are a part of Manipal University. These colleges have consistently been rated among the India's top 10 institutions, in their respective fields, in different surveys over the last few decades. Manipal has come to be recognized for its excellence in Medical and Engineering programmes and continuing education in the areas of IT, Management and Healthcare for employed professionals.

In its endeavour to provide Continuing Education for the employed professionals, the group through Manipal University offers off campus part time programs in the areas of Information Technology / Information Science, Management and Healthcare. These programs are offered as exclusive programs to the corporate and customized to suit their requirement. They are also offered in a calendar format as open programs. Such initiative provides working professionals with an opportunity to build their career while working and also helps them to focus their learning in specific area of specialization.

Highlights:

- Over 50 years in providing world-class education
- 3 Universities, 10 global campuses
- Over 30 institutions, over 300 courses
- 14 professional streams
- Over 1,20,000 active students
- Over 3,00,000 alumni
- Students from over 50 nationalities

Manipal and Industry

A few years from now, the companies that will survive are those that have built domain expertise in an organization's single most competitive advantage – manpower. While there is no dearth of human capital in a country like India, the concern is - Are they employable?

We at Manipal constantly endeavor to update our courses and teaching techniques to impart only industry relevant education, so the students become readily employable and existing employees upgrade their skills to meet industry standards.

We were among the first in the country to bridge the gap between education and the industry by creating industry specific programs for organizations. Currently, we provide specialized programs, in partnership with companies like ICICI Bank and Bharati Telecom, among others.

To address the need for career-focused education, Manipal Education has partnered with ICICI Bank to establish the ICICI Manipal Academy of Banking & Finance. Manipal Education has several strategic investments in emerging companies, including U21Global, the world's premier online graduate school, MeritTrac, a pioneer and India's Largest Skills Assessment & Testing Company and TutorVista, a leading online tutoring company.

Industry Collaboration

Designed tailor-made executive programmes for Intel, Texas Instruments, Honeywell, GE, Infenion, Delphi, Interrasystems, GE Healthcare, IBM Daksh Applied Materials and MindTree

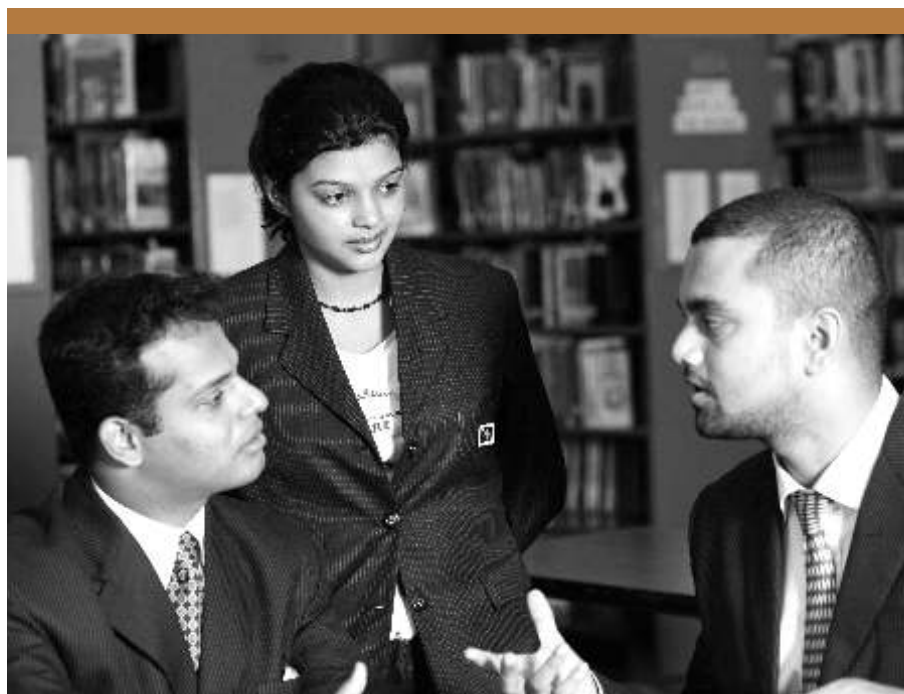
Established ICICI Manipal Academy in collaboration with the ICICI Group

Strategic investments in companies like U21 Global, TutorVista and MeritTrac

Introduced a programme on Telecom & Customer Service for Bharti Telecom

Designed Phone Banking Officer (PBO) programme for ICICI and PGPMI (Management & Insurance) programme for ICICI Prudential

Launched an MBA program in media and entertainment in association with Whistling Woods International





Industry Speak

“At Cosmic Circuits, we operate in a niche area Microelectronics. Hence, recruiting and retaining knowledgeable and talented employees has been a challenge.

One way we have found of overcoming this challenge is to encourage employees to constantly update their knowledge levels and study further.

This is where the Master of Science courses offered by Manipal University help. We encourage our employees to take the program in Microelectronics offered by Manipal University.

The Master of Science programs maintain the quality & rigour of a regular program, in addition to being convenient for working professionals. Our employees at Cosmic Circuit have benefitted from the program, showing enhanced understanding of the subject and quality output at work.”

A. Nagaraj

Vice President Finance & Admin.
Cosmic Circuits

“As the world gets more specialized, companies need to develop knowledge in these specialized fields. Manipal University's Master of Science programs recognize this reality and have worked closely with companies like Delphi and others and developed executive programs in niche areas like VLSI CAD, Embedded System, Automotive Embedded System and Microelectronics. Moreover Manipal University is trying to bring industry experts wherever possible to teach these courses. Some of the Delphi engineers have shown great improvement in their work after going through these courses. They were able to apply what they have learned in their Master of Science program.”

G. Sivarama Krishnaiah

Software Competency Manager
Technical Centre India
Delphi

Courses for Working Professionals

In line with its objective of providing Continuous Education for employed professionals, Manipal University (MU) has been offering off-campus part-time post-graduation courses in the area of Management, Information Science/ Technology and Healthcare for working professionals since 2003. Courses include:

1. Management courses for working professionals.
2. Master of Science courses for working professionals in Information Science/IT & Engineering
3. Industry oriented courses for healthcare professionals.

MU delivers above courses at multiple locations in the country.

Master of Science Programs for Working Professionals

- Master of Science in Computer Science
- Master of Science in Microelectronics
- Master of Science in VLSI CAD
- Master of Science in Digital Design & Embedded Systems
- Master of Science in Embedded System Design
- Master of Science in Automotive Embedded System
- Master of Science in Mechanical System Design

Management Courses for Working Professionals

- a) Executive MBA (E-MBA)
- b) Executive Post Graduate Diploma in Business Administration (E-PGDBA)





Master of Science Programs for Working Professionals

- Master of Science in Computer Science
- Master of Science in Microelectronics
- Master of Science in VLSI CAD
- Master of Science in Digital Design & Embedded Systems
- Master of Science in Embedded System Design
- Master of Science in Automotive Embedded System
- Master of Science in Mechanical Systems Design

All above courses are of 2 year duration. BE / MCA / AMIE / B.Sc / Diploma holders are eligible for all the above courses based on various levels of experience. Please refer section on the overview of the course/s for details on eligibility criteria for specific course.

In all these courses, emphasis is on self-learning and the pedagogy attempts to incorporate as many modern technologies as desirable. The faculty / resource persons are drawn from the institute and the industry.

The work learning environment of a student consists of two broad-based facets:

- Academic environment created by MU-based and off-campus center based instructors who are MU / Industry faculty drawn from different disciplines

- Students own work environment from which assignments, projects, seminars etc., may emerge to integrate theory and practice

Classes are conducted on weekends to suit the needs of working professionals.

Program Details

The courses are coordinated by Manipal Centre for Information Science (MCIS) & Manipal Institute of Technology (MIT). MCIS, the school of design and software excellence of Manipal University, was set up during the year 1998. MCIS, which houses Medical Software, VLSI-CAD, Embedded Systems, is a premier institution in India, which equips students with the cutting-edge technology as per the market requirements. The institute has very close association with industries like GE Medical Systems, Philips, Siemens, Softjin, Alliance Semiconductors, Ample Communications, Kasura Technologies, Xalted Systems, Elxlinux, Smart Yantra Technologies and ZETA Infotech for its post graduation courses. Please refer www.manipal.edu for further details on MCIS or MIT.

Location: These courses are offered at Bangalore, Chennai, Hyderabad, and Mumbai presently. These courses will be offered at Delhi and Kolkata shortly. In case of relocation / transfer, students can continue the course at any of the above mentioned locations, subject to the course being offered at new locations.

Procedure for transfer and Break

Transfer Guidelines: Guidelines for candidates interested in seeking transfer during the course to other locations where similar course is being offered are as under:

- The candidate needs to submit the nomination letter from the new employer.
- In case of transfer in the existing company, candidates need to submit a letter from the employer mentioning that the candidate will be allowed to use company facilities for project work.
- The transfer is subject to same semester of the particular course being offered at other location. The candidate needs to meet the minimum attendance criteria at the new location.
- The corporate programs are being offered at Bangalore, Chennai, Hyderabad & Mumbai. However, in case a particular program / course is not offered at any of the above mentioned location due to any reason, the candidate will not be able to pursue the course at such location.

Guidelines for Break during the Program

Short-term Break: If required, a candidate can take break of up to two months during the semester. In such a case, if the minimum attendance per subject is 60% and the average attendance in the semester is 75% the candidate will be allowed to take the exam. Students who take break due to official assignment can avail certain exemption in attendance by producing a written document / letter from the company. In such cases the minimum attendance required per subject cannot be less than 60% and the average attendance in the semester has to be 60%. If the above criteria is not met the candidate can take exams only for those subjects with attendance of 75% and above.

However, if the candidate is keen on attending lectures for the subject missed during the break, he / she can join the lectures in the next available batch and appear for the exam.

Long-term Break: If required, a candidate can take a long term break spanning up to one year during the theory sessions (first year of study). However, such break will be allowed only for official reasons such as deputation on project abroad or at other locations.

A candidate is eligible to take short / long-term breaks provided we have a batch to offer.

Admission Process: Eligible candidates can confirm their admission by submitting:

1. The filled in application form with 3 recent passport sized photographs
2. Attested photocopies of qualifying exam certificates & marks cards
3. Experience certificate copies
4. The nomination letter / Employment Certificate from the present employer
5. Demand Draft for the applicable fee in favour of Manipal University, payable at Manipal or Udupi

*Nomination letter by the company does not mean that the company is sponsoring the candidate. Please refer page 19 for nomination letter format.

Enrollment Dates: Please visit www.executiveprograms.manipal.edu

Duration: The duration of study of the Master of Science degree is of 2 academic years divided into 4 semesters. The first two semesters will be traditional class room teaching, internal evaluation & University examination at respective centres. Third and Fourth semester is project work to be carried out in the Company which nominates the candidates.

Validity: The maximum allowable duration of the 2 year Master of Science Course is 4 years from the date of admission.

Medium: The medium of instruction and examination in the program shall be in English.

Fee Structure

2 Year Master of Science Programs (CS, ME, AES, ESD, VLSI-CAD, DD&ES)				
Course	Fee	Installment Structure		
		Installment	Last Date	Amount
Master of Science (2 Years)	Rs. 1,40,000/-	First	At the time of Admission	Rs. 30,000/-
		Second	Within 60 days from the date of commencement of the classes	Rs. 20,000/-
		Third	Before the start of 2nd Semester	Rs. 30,000/-
		Fourth	Within 60 days from the date of commencement of 2nd semester classes	Rs. 20,000/-
		Fifth	Before the start of 3rd Semester	Rs. 20,000/-
		Sixth	Before the start of 4th Semester	Rs. 20,000/-
2 Year Master of Science Program in Mechanical Systems Design				
Course	Fee	Installment Structure		
		Installment	Last Date	Amount
Master of Science (2 Years)	Rs. 1,50,000/-	First	At the time of Admission	Rs. 35,000/-
		Second	Within 60 days from the date of commencement of the classes	Rs. 20,000/-
		Third	Before the start of 2nd Semester	Rs. 35,000/-
		Fourth	Within 60 days from the date of commencement of 2nd semester classes	Rs. 20,000/-
		Fifth	Before the start of 3rd Semester	Rs. 20,000/-
		Sixth	Before the start of 4th Semester	Rs. 20,000/-

- Examination fee of Rs. 500/- per subject extra
- A student who pays the entire course fee in lump sum, will be eligible for a discount of 10% on the total fee
- Fee to be paid in the form of DD in favour of 'Manipal University' payable at Manipal or Udupi
- Fee paid is not refundable

Course overview

MASTER OF SCIENCE IN COMPUTER SCIENCE

Introduction

The Master of Science in Computer Science degree allows students to gain the skills needed to pursue a career as an information and computer scientist. It allows students to further develop their understanding of programming and other fundamentals of computer science. This program is designed for those who have a bachelor's degree in a computer-related subject.

Eligibility Criteria

Employee of any organization engaged in Computer Science domain with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc. (Computer Science or Digital Electronics), MCA and AMIE are eligible to take direct admission for the program.

Employee of any organization engaged in Computer Science domain with a minimum of 50% aggregate marks in BE / B.Tech Non Electrical Science stream (Mechanical / Civil / Chemical / IP etc) needs to undergo a bridge program for the modules listed below and also needs to secure 50% marks in the test conducted at the end of the bridge program (Each of the modules for bridge program will have 10 hours of teaching).

1. Object Oriented Programming
2. Computer Organization and Architecture
3. Digital Electronics and Microprocessors
4. Introduction to Database

B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years experience and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the above modules and also needs to secure 50% marks in the test conducted at the end of the bridge program.

Course Structure

Semester I	Semester II
Object Oriented System	Graph Theory
Data Structures	Network Protocols and Network Security
Software Project Management	Advanced Computer Architecture & Algorithms
Design and Analysis of Algorithms	Digital Image Processing & Application
Design of Operating Systems	Elective I*
Database System Concepts	<ul style="list-style-type: none">• Pattern Recognition & Scene Analysis• Distributed Systems• Neural Networks
	Elective II*
Term Paper -1	<ul style="list-style-type: none">• Data Warehousing & Data Mining• Mobile Computing• Formal Methods
	Term Paper - 2
Semester III & IV: Project work at the Organization which Nominates the candidate	

* A batch with certain elective will be decided mutually between the University & Course Coordinator subject to a minimum number of students opting for the combination

MASTER OF SCIENCE IN MICROELECTRONICS

Introduction

The world of Microelectronics is a complete mesh of the high technology, big money and as often as not, intense political activity. The Integrated Circuit, in all of its varied forms, has become a central feature of contemporary industrial life. It is also a rapidly changing sector, both industrially and technologically. This program is designed for those who have degree / diploma in electrical / electronics / computer science related subjects.

Eligibility Criteria

Working Professional with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc (Computer Science OR Digital Electronics), MCA and AMIE is eligible to take direct admission for the program.

Working professional with B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years of experience in the relevant field and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the modules listed below and needs to secure minimum 50% marks in the test conducted at the end of the bridge program.

1. Object Oriented Programs
2. Computer Organization & Architecture
3. Digital Electronics & Microprocessors
4. Introduction to Database

Course Structure

Semester I	Semester II
Foundations of VLSI CAD	Nanomaterials & Nanoelectronics
Microelectronics Fabrication Technology	Mixed Signal IC Design
Physics of Semiconductor Devices	System on Chip Design
CMOS Analog Integrated Circuit Design	Design for Manufacturability & Yield Management
Digital VLSI Design	Elective II*
Elective I*	<ul style="list-style-type: none"> • Artificial Neural Networks • Failure Analysis & Design • Digital Signal Processing • High Speed VLSI Design
<ul style="list-style-type: none"> • RF Microelectronics Chip Design • Introduction to MEMS Technology • Advanced Logic Synthesis • High Level Design & Testing • Embedded Systems Design 	Elective III*
	<ul style="list-style-type: none"> • Macro-electronics • Quantum Information Science • Optical Integrated Circuits • Low Power VLSI Design
Term Paper -1	Term Paper- 2
Semester III & IV: Project Work at the Organization which nominates the candidate	

*** A batch with certain elective will be decided mutually between the University & Course Coordinator subject to a minimum number of students opting for the combination**

MASTER OF SCIENCE IN VLSI CAD

Introduction

The increasing demand for integrated circuits along with strict price / performance goals, time constraints in design and deployment and the rapid developments in semiconductor process technologies are driving us towards designs of 0.35 micron and below. These processes are known as deep sub micron or very deep sub micron technologies. With the advent of deep sub micron technologies, conventional design flows and methodologies need to be appropriately enhanced. Thus the current CAD environment supporting automated higher abstraction levels like system level synthesis as well as more manual and lower abstraction levels such as lay outing have to be correspondingly upgraded.

Eligibility Criteria

- Working Professional with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc (Computer Science OR Digital Electronics), MCA and AMIE is eligible to take direct admission for the program.
- Working professional with B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years of experience in the relevant field and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the modules listed below and needs to secure minimum 50% marks in the test conducted at the end of the bridge program.

1. Object Oriented Programs
2. Computer Organization & Architecture
3. Digital Electronics & Microprocessor
4. Introduction to Database

Course Structure

Semester I	Semester II
Digital System & VLSI Design	Embedded Systems Design
High Level Digital Design & Testing	Advanced Logic Synthesis
Data Structures & Algorithms	Advanced VLSI Design
Process Technology	Lower Power VLSI Design
Principles of ASIC Design	
Elective I	Elective II
<ul style="list-style-type: none"> • CAD for VLSI & Graph Theory • Systems Software 	<ul style="list-style-type: none"> • Design using Microcontrollers • Real Time Operating System • System on Chip Design
Term Paper -1	Elective III
	<ul style="list-style-type: none"> • Digital Signal Processing • High Speed VLSI Design • Device Drivers
	Term Paper - 2
Semester III & IV: Project Work at the Organization which nominates the candidate	

MASTER OF SCIENCE IN DIGITAL DESIGN AND EMBEDDED SYSTEMS

Introduction

With the growing need for trained professionals in the area of Embedded Design, Information Science & Web Development, huge market is expected in the years to come. As the world is moving towards the miniaturization and the latest gadgets become web enabled for all purposes starting from Refrigerators to Mobiles. The Embedded Systems market is one of the highest growth areas as these systems are used in every market segment, consumer electronics, office automation, industrial information, biomedical engineering, telecommunication and transportation, military and so on. Embedded computing systems have grown tremendously in recent years, not only in their popularity, but also in their complexity. The complexity demands new type of designer, one who can easily cross the traditional border between hardware design and software design.

Eligibility Criteria

Working Professional with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc (Computer Science OR Digital Electronics), MCA and AMIE is eligible to take direct admission for the program.

Working professional with B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years of experience in the relevant field and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the modules listed below and needs to secure minimum 50% marks in the test conducted at the end of the bridge program.

1. Object Oriented Programs
2. Computer Organization & Architecture
3. Digital Electronics & Microprocessors
4. Introduction to Database

Course Structure

Semester I	Semester II
Data Structures & Algorithms	Systems Software
Embedded System Design	Advanced VLSI Design
Digital System & VLSI Design	Real Time Operating Systems
CAD for VLSI & Graph Theory	Device Drivers
Principle of ASIC Design	Process Architecture
Elective I*	Elective II*
<ul style="list-style-type: none">• High Level Digital Design & Testing• Digital Signal Processing	<ul style="list-style-type: none">• Advanced Logic Synthesis• Design using Microcontrollers
Term Paper - 1	Term Paper - 2
Semester III & IV: Project Work at the Organization which nominates the candidate	

* A batch with certain elective will be decided mutually between the University and Course Coordinator subject to minimum of 30 students opting for the particular elective subject

MASTER OF SCIENCE IN EMBEDDED SYSTEM DESIGN

Introduction

Embedded systems are involved in almost every facet of modern life. Applications of embedded processors are in many industries like consumer electronics, automobile, communications, aviation, space etc. Even PCs that are designed around powerful CPUs such as Intel, Pentium IV, contain embedded systems. Embedded software is getting more complex and versatile with the drive to create smaller devices supporting enhanced functionality. This trend seems to continue at least for some time in the future. This course is intended to cater the requirements of the industry. A balance is maintained throughout the course in the treatment of both software and hardware topics.

Eligibility Criteria

Working Professional with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc (Computer Science OR Digital Electronics), MCA and AMIE are eligible to take direct admission for the program.

Working professional with B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years of experience in the relevant field and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the modules listed below and needs to secure minimum 50% marks in the test conducted at the end of the bridge program.

1. Object Oriented Programs
2. Computer Organization & Architecture
3. Digital Electronics & Microprocessors
4. Introduction to Database

Course Structure

Semester I	Semester II
Embedded Systems Design	Systems Software
Real Time Operating Systems	Embedded Control Systems
Signals & Systems	Embedded Software Engineering
Digital Signal Processing	Device Drivers
Digital System & VLSI Design	Control Systems Modeling & Simulation
Data Structure & Algorithm	Design using Microcontrollers
Term paper - 1	Term paper - 2
Semester III & IV: Project Work at the Organization which nominates the candidate	

MASTER OF SCIENCE IN AUTOMOTIVE EMBEDDED SYSTEMS DESIGN

Introduction

Embedded systems are involved in almost every facet of modern life. Applications of embedded processors are in many industries like consumer electronics, automobile, communications, aviation, space etc. Even PCs that are designed around powerful CPUs such as Intel, Pentium IV, contain embedded systems. Embedded software is getting more complex and versatile with the drive to create smaller devices supporting enhanced functionality. This trend seems to continue at least for some time in the future. This course is intended to cater the requirements of the industry. A balance is maintained throughout the course in the treatment of both software and hardware topics.

Eligibility Criteria

Working Professional with a minimum of 50% aggregate marks in BE / B.Tech Electrical Science stream (Computer Science / Information Science / Electrical & Electronics / Electronics and Communication / Instrumentation Engineering etc), M.Sc (Computer Science OR Digital Electronics), MCA and AMIE is eligible to take direct admission for the program.

Working professional with B.Sc degree (with Mathematics as one of the core subjects) having a minimum of 5 years of experience in the relevant field and Diploma with a minimum of 8 years of experience in the relevant field needs to undergo a bridge program in the modules listed below and needs to secure minimum 50% marks in the test conducted at the end of the bridge program.

1. Object Oriented Programs
2. Computer Organization & Architecture
3. Digital Electronics & Microprocessors
4. Introduction to Database

Course Structure

Semester I	Semester II
Embedded System Design	Automotive Quality Systems
Real Time Operating Systems	Automotive E&E Systems - Part I
Signals & Systems	Automotive E&E Systems - Part II
Digital Signal Processing	Systems Software
Digital System & VLSI Design	Electives (Chose any two subjects)*
Data Structure & Algorithm	<ul style="list-style-type: none">• Embedded Control Systems• Embedded Software Engineering• Device Drivers• Design using Microcontrollers• Control Systems Modeling & Simulation
Term paper - 1	Term paper - 2
Semester III & IV: Project Work at the Organization which nominates the candidate	

*** A batch with certain elective will be decided mutually between the University & Course Coordinator subject to a minimum number of students opting for the combination**

MASTER OF SCIENCE IN MECHANICAL SYSTEMS DESIGN

Introduction

The Masters of Science in Mechanical Systems Design offered by Manipal University is unique of its kind which demands the basic skills of Mechanical Engineering and would help the takers to move to the advanced level in the field of Mechanical Engineering. The curriculum is so developed to cater the needs of the Hi-technology areas of Mechanical Engineering and the program deals with all core papers in design and advanced papers in the areas of FEA and Vibrations. This program is designed for practicing Engineers in the areas of Design, Manufacturing and Production.

Eligibility Criteria

Employees of any organization engaged in Mechanical Engineering related domain with a minimum of 50% aggregate marks in BE / B.Tech in the Mechanical, Production, Industrial Engineering, Automobile, Aeronautical Engineering and AMIE with one year experience are eligible to gain a direct entry into the program.

Course Structure

Semester I	Semester II
Machine Design	Advanced Mechanical Vibrations
Finite Element Method	Mechanism and Robotics
Heat Transfer & Computational Fluid Dynamics	Product Design
Solid Mechanics	System and Simulation
Elective I*	Elective III*
<ul style="list-style-type: none">• Advanced Kinematics of Machinery• Design for Manufacture	<ul style="list-style-type: none">• Mechatronics and MEMS• Mechanical Systems Design
Elective II*	Elective IV*
<ul style="list-style-type: none">• Thermal Turbo Machinery• Fracture Mechanics	<ul style="list-style-type: none">• Project Management• Advances in Material Sciences
Computer Aided Design Lab	Computer Aided Analysis Lab
Semester III & IV: Project work at the organization which nominates the candidate	

*** A batch with certain elective will be decided mutually between the University & Course Coordinator subject to a minimum number of students opting for the combination**



Requirement from the Nominating Organization: For the conduct of all these courses, the basic requirement is a nomination by the employer. Also they need to extend physical and other facilities for conducting project work. The organization nominating the candidate will retain all the Intellectual Property rights on the project/internship work done by the employees who take up this course. If required, a letter / MOU to this effect will be issued.

Reference Material: For each course, handout which spells out the plan of study and evaluation scheme, prescribed text book/suggested reference books apart from other details will be given to the students. The evaluation schedule is also announced in the beginning of the semester itself. All details pertaining to the operation of the course including grading procedures are shared with the students through this document. It is the responsibility of each student to acquire textbooks and other reference materials recommended for each course in the course handout. No printed study material is given to the students.

Faculty: Professionally competent and experts in understanding the student psyche, the teachers in all our institutes form the bulwark of Manipal. Manipal has a large pool of experienced faculty members in various functional areas. We believe in a good blend of theory & practice of management and accordingly the faculty members chosen have both academic & industry experience. We also draw on the network of experienced visiting faculty members & industry experts at various locations we operate.

Attendance: Attendance for the lectures is a critical part of course implementation. Students need to maintain a minimum of 75% attendance in each subject to be eligible for appearing for the end semester University exams. However in special circumstances, student may be permitted to take the examination even if he / she has less than 75% attendance (but not less than 60% in individual subjects) only if he / she produces a letter from the concerned authority supporting the genuineness of the cause for absence. There is no attendance requirement during the period of project work / training.

Credit Based System

- The educational process uses credit based system.
- The course content of individual subject (theory as well as practical) is expressed in terms of certain number of credits. The number of credits assigned to a subject depends on the number of contact hours.
- The course content of each semester is expressed in terms of a specified number of total credits. A student is deemed to have successfully completed a particular semester's program of study when he/she earns all the credits of that semester, i.e., he / she has no F grade in any subject of that semester.

Outline of Evaluation:

The student performance in each subject is evaluated out of a maximum of 100 marks, of which 50% is for in semester assessment and 50% for the end semester examinations. However a candidate must score a minimum of 35% marks in the end semester exam to be eligible for passing grades.

In-semester assessment will be based on continuous evaluation, the factors of which will include: attendance, assignments, case presentations and class tests.

The overall performance of a student in different subjects is expressed in terms of a Letter Grade.

The training/project work for 2 year Master of Science Course during the third and fourth semester will be evaluated for 400 marks. The project work is evaluated for 25% of the total marks to award the internal assessment marks. This will be done after the completion of 4 months of work.

The final evaluation of the project work will be done by the university after completing at least 8 months of work. This has a weightage of 75% of the total marks which includes viva voce and evaluation of thesis.

Both internal assessment and the University viva voce examination marks will be considered for awarding the grade.

Project work evaluation will follow the fixed grading system

Continuous Evaluation:

All students are evaluated during the semester as a part of continuous assessments. This includes assignments and two in-semester tests in every subject. This is an internal assessment component and has a 50% of the maximum marks in a subject.

The internal assessment is computed as a sum of the marks obtained in the assignments and average of the two in-semester tests. It is compulsory to attend both the tests.

If a student misses any one of the in-semester tests, due to genuine reason (which is authenticated by the respective authority), university may consider conducting one make up test for such student.

Promotion to higher semesters, academic performance requirements

A student will be promoted to the higher semester irrespective of the number of subjects he / she has failed.

A student can commence the project work at the beginning of the third semester, but he / she has to earn all the credits of the first and second semesters before he / she is permitted to submit the project thesis.

Term Paper:

Students have to submit a Term Paper in the prescribed form to MUL at least one month prior to the commencement of the End Semester Examination.

Term Papers will be evaluated by the panel of experts from Manipal University for maximum of 100 marks and marks will be sent to the Controller of Examinations.

Students enrolled for Master of Science in Mechanical Systems Design need not submit the term paper. Instead, they need to complete the lab assignment which has to be submitted a month prior to the End Semester Examination. The lab assignment will be evaluated for a maximum of 100 marks.

Relative Grading: Marks obtained in the in-semester and end-semester examinations are added together and a relative performance / grading system will be used to award the student with an overall letter grade for the course. However the minimum marks required in each subject is kept as 40% to declare the candidate as eligible for relative grading in that subject.

Grade Point Average, (GPA) and Cumulative Grade Point Average (CGPA): Each course grade is converted into a specific number of points associated with the grade. These points are weighted in accordance with the number of credits assigned to a course. The grade point average for each semester will be calculated only for those students who have passed all the courses of that semester. The weighted average of GPA's of all semesters that the student has completed at any point of time is the Cumulative Grade Point Average (CGPA) at that point of time.

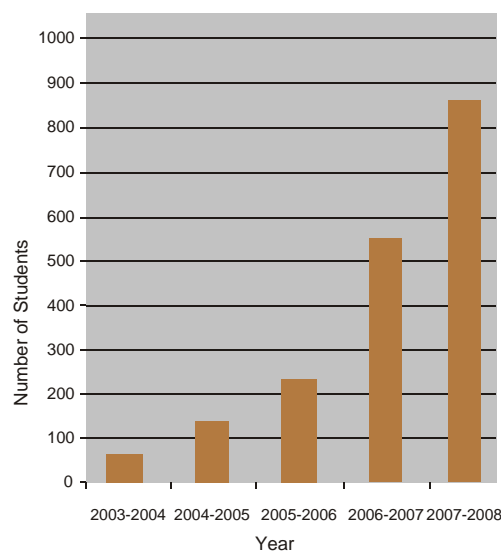
Web Services: Keeping in mind the convenience of working professionals, following information / services is provided online

Pre-enrollment services

- Application / Brochure download

Post-enrollment services

- Candidates regulation & attendance details
- Registration facility (activation of student account)
- Schedule (classes, assignments & examination)
- Classroom material (PPTs, etc.)
- Examination results with marks details
- Model question papers



Corporate program offered by Manipal University is gaining popularity day by day as shown above:

Present Collaborative Arrangements: The University has collaborated with some of the top companies from IT, ITES Services, Semiconductor, Telecom, Banking and Insurance Industry for providing continuous education to their employees. These programs are also customized to suit the immediate needs of the industry/collaborating organization. Some of the companies with whom Manipal University has collaborated to provide continuous education services in the areas of Management, IT/Information Science & Healthcare are:

Intel, Texas Instrument, Honeywell, MindTree, Applied Materials, Sankalp Semiconductor, GE, Infineon, Delphi, Interrasystems, GE Healthcare, IBM Daksh.

The University, if required, allows customization of course structure to suit the needs of the collaborating organization. Any organization interested in having a dialogue with the University for offering any collaborative and innovative programs directed towards the human resource development needs of their industry / organization may contact the following:

Manager, Corporate Programs
 Manipal Universal Learning Pvt. Ltd.
 Manipal Towers, # 14 HAL Airport Road
 Bangalore-560008
 Phone: 080- 4078- 9100
 Mobile: 99805-10527
 E-mail: executive.edu@manipalu.com
 www.executiveprograms.manipal.edu

STUDENT SPEAK

"Manipal University's Master of Science in Computer Science program turned out to be a great opportunity to explore the latest in Computer Science for a professional like me whose area of expertise is in VLSI design. This program has given an extra dimension to my career. I give the credit for it to the well designed curriculum, capable faculty and a very professional co-ordination by the staff involved. I am enjoying every moment of my association with Manipal University's Master of Science in Computer Science program. A great learning environment for anyone pursuing masters degree in Computer Science. Thank You Manipal!"

Sumit K, Master of Science in Computer Science (National Semiconductors)

"The Master of Science Program at Manipal University has helped me continue my studies along with my job. The course is apt for a person like me working in the hardcore IT Sector and software testing. The faculty pool is an experienced lot and also the syllabus has all the latest ingredients of a regular masters program. The provision for breaks and transfers and also the conduction of classes on weekends provides a lot of flexibility for working professionals. I am thankful to Manipal for designing such programs."

Sagar Gode, Master of Science in Computer Science (Wipro Technologies)

"With Master of Science in VLSI through Manipal University, I was able to fulfill my goal of doing a high quality PG program while working. The striking feature of this program is that despite being convenient for working professional, it retains the rigor of a regular program. The student convenience is reflected in every aspect of course; curriculum design, class timings, structure for internal exams, assignments, etc."

Maruthi Srinivas N, Master of Science in VLSI (Cadence Design System)

"The Manipal University's Master of Science course is very helpful in providing theoretical and practical inputs required to do well in the complex and versatile field of Embedded Software. The program will surely help me in my career ahead."

Viramani Alagappan, Master of Science in Embedded System Design (Intel Technology India Pvt Ltd)

"After my Diploma I got into the field of Microelectronics, which is my core area of interest. I wanted to continue with my further studies without quitting my job but there were very few options and most of them not of the kind that I was looking for. Finally through some of my colleagues and from my HR I came to know about the Integrated Master of Science in Microelectronics offered by Manipal University, I enquired in detail about it and found it worth going for and finally joined it. The course is absolutely of the kind that I was looking for with a lot of flexibility and the syllabus includes all the rigors of a regular Master of Science program and most importantly includes the latest developments in the field of Microelectronics. It is an ideal course for a working professional like me. I recommend this course for all the diploma holders working in the area of Microelectronics and also looking for continuing education."

Swathi M, Integrated Master of Science in Microelectronics (ARM Embedded Technology)

NOMINATION LETTER FORMAT

(The letter has to be printed on the Company letterhead)

Date:

The Head
Corporate Education Programs
Manipal Universal Learning Pvt. Ltd.
Manipal Towers
No. 14, HAL Airport Road
Bangalore-560008

Sub: Nomination of employee/s forCourse.

Dear Sir,

Reference to the above course, which is being offered by Manipal University, and delivered by you, at their branch campus, we are pleased to nominate following candidate/s for the above course:

Name :

Date of Joining :

We confirm that we will allow these students to use our facilities for their project work, during the period that they are in our employment.

Thanking you,

for Company Name,

Authorised Signature
Name, Designation & Company Seal

THE MANIPAL ADVANTAGE

- Degree from a premier University
- Global recognition
- Industry acceptance
- Teaching by highly qualified and experienced faculty
- Regular monitoring & assistance in pursuing the program
- Provision for breaks to accommodate work requirements

BANGALORE

Manipal Universal Learning Pvt. Ltd.

Manipal Towers

14, HAL Airport Road

Bangalore-560008

Ph: 080-40789100

Mob: 99725-29252/99725-31252

E-mail: executive.edu@manipalu.com



EDUCATIONAL QUALIFICATION

DEGREE	UNIVERSITY/INSTITUTE	YEAR OF PASSING	PERCENTAGE	SUBJECTS

WORK EXPERIENCE

NAME OF THE ORGANIZATION	CITY	YEAR OF JOINING	YEAR OF LEAVING	YEARS OF EXPERIENCE	SPECIALIZATION

Please mention if you have undergone any other professional training:.....

.....

APPLICATION CHECK LIST

- ATTESTED COPY OF DEGREE/DIPLOMA CERTIFICATE • ATTESTED COPIES OF ALL SEMESTER MARK SHEETS
- THREE PASSPORT SIZE PHOTOS • NOMINATION LETTER • EXPERIENCE CERTIFICATE

How did you come to know about us? (tick relevant options)

1. Advertisement in the news paper 2. Online ads 3. Advertisements at tech parks
4. Google search 5. News paper article 6. Through friends/colleagues
7. Through your learning & development manager 8. Others (Please specify)

I hereby declare that all the above information is true and complete. In the event of suppression or distortion of any fact, I understand that my admission/degree is liable for cancellation.

.....
SIGNATURE OF APPLICANT

For more information on the programmes, contact:

Bangalore

Manipal Universal Learning Pvt. Ltd.
Manipal Towers,
14, HAL Airport Road,
Bangalore 560 008
Mob: 99725 29252/99725 31252

Chennai

Manipal Universal Learning Pvt. Ltd.
Kensington
857, Poonamallee Highway
Kilpauk
Chennai 600010
Mob: 96000 73960
Ph: 044 43510900

Hyderabad

Manipal Universal Learning Pvt. Ltd.
The Capital, Girdharilala Estate 7-1-79 &
7-1-80,
4th Floor, Above Heritage Fresh,
Ameerpet,
Hyderabad 500 016
Mob: 97040 91310

Mumbai

Manipal Universal Learning Pvt. Ltd.
30H, 2nd Floor, Simran Center,
Parsi Panchayat Road,
Andheri (East)
Mumbai 400 069
Mob: 99672 98848