



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM - CHENNAI

SCHOOL OF ENGINEERING



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM - CHENNAI

ACCREDITED BY NAAC WITH 'A' GRADE
Marching Beyond 25 Years Successfully



The Best
Multi disciplinary
University in
Chennai.
- Asia Today 2020.



Rank 43
Pharmacy
Category



**Job
Oriented &
Innovative
courses**

**Excellent
placements**

**Highly
qualified
faculty**

**Located
in
Pallavaram**
Heart of Chennai

**50+
Value added
courses**

Ranked
AAA+
India's Best
Engineering
Colleges - 2019
Source : Careers 360 April 2019

Ranked
5
Among Top 10
Private Engineering
Institutes in Tamil Nadu.
Times of India Engineering Survey 2019

Ranked
TOP 50
Private
B'Schools
In South India
Business World Nov 2018

Ranked
AA+
in India's
Best
law Colleges
Source : Careers 360 Jan 2018

GRADED
OUTSTANDING
A1
By the
INDIAN REGISTER
OF SHIPPING (IRS)
(NOV-2019)

ORIGIN OF THE INSTITUTION

1992

**VAELS
Educational
Trust was
Established**

2008

The Deemed University
status was conferred on
04.06.2008 by the MHRD
under section 3 of UGC
Act 1956, Govt. of India

2019

VISTAS is a
**Multi-disciplinary
Institution** offering varied
and innovative courses in
emerging areas

VISTAS has two campuses
Pallavaram | Thalambur

VISION

To make the Institute an epitome of excellence in higher education by effectively providing high quality education and rigorous training to students in multiple streams of choice with ample scope for all round development to make them excel in their profession for betterment of the society.

MISSION

- Effectively imparting knowledge and inculcating innovative thinking
- Facilitating skill enhancement through add on courses and hands on training
- Doing original, socially relevant, high quality research
- Facilitating appropriate co-curricular, extracurricular and extension activities
- Instilling the spirit of integrity, equity, professional ethics and social harmony



PROGRAMMES OFFERED AT VISTAS

15 Schools

1. School of Basic Sciences
2. School of Computing Sciences
3. School of Engineering
4. School of Hotel and Catering Management
5. School of Languages
6. School of Law
7. School of Life Sciences
8. School of Mass Communication
9. School of Management Studies & Commerce
10. School of Ocean Engineering
11. School of Pharmaceutical Sciences
12. School of Maritime Studies
13. School of Physiotherapy
14. School of Education
15. School of Music & Fine Arts

Departments	41
UG Programmes	45
PG Programmes	33
Diploma	10
Research	M.Phil., Ph.D.

INFRASTRUCTURE FACILITIES

Total built-up area
11,65,620 Sqft

- Aquatic Complex
- 9 Captive power generators
- Wind mills & Solar Panels
- Vehicle parking area
- 24 Hrs Security Guards
- 24 Hrs Medical facilities
- CCTV Camera
- Waste management system

Total land area
29.13 acres

- Green Campus
- State-of-art the Library
- Boys Hostels
- Girls Hostels
- Staff Quarters
- Canteens
- Guest houses
- Play field
- Garden, Lawn



ALL AMENITIES A STUDENT NEEDS



Boys
Hostel



Girls
Hostel



Wi-Fi
Enabled campus



ATM



RO
Water



Uninterrupted
Power Supply



On- Campus
Medical Clinic



Food
Courts



Hygenic
Canteen



Shuttle Bus
Services



SCHOOL OF ENGINEERING

The School of Engineering (SE) was started in the year 2008 with the emphasis on teaching and research in frontier areas of engineering in various disciplines. The School of engineering comprises the various disciplines such as (i) Computer Science and Engineering, (ii) Information Technology, (iii) Electronics and Communication Engineering, (iv) Mechanical Engineering, (v) Automobile Engineering, (vi) Civil Engineering, (vii) Electrical and Electronics Engineering (viii) Biotechnology and (viii) Biomedical Engineering.

All the above departments offer undergraduate, postgraduate and Research programmes leading to PhD in their respective disciplines. We have also launched B.Tech Program in Information Technology with specialization in Mobile & Cloud Based Application in association with IBM. The Courses offered by the departments meet the requirements of both industry and research. All the academic programmes are based on the Choice Based Credit System (CBCS) which empowers the students with a wide range of courses comprising core courses, elective courses, internships and project work.

There are 100 members of faculty in which 20 are Ph. D. holders, 40 members of faculty are pursuing Ph.D course. The faculty members have attracted funds from national and international agencies in the form of research grants from the national funding agencies like University Grants Commission (UGC), Department of Science & Technology (DST), Ministry of Earth Sciences (MOES), Defence Research & Development Organisation (DRDO), Council of Scientific & Industrial Research (CSIR) and Tamilnadu State Council for Science and Technology to support the research projects of the School.

During the last five years, faculty of School of Engineering have published more than 207 research articles in journals and filed 16 patents for inventions. MOUs are periodically being signed with academic and research institutions and industries abroad and within the country for collaborative research and co-curricular activities. The School of engineering also publishes a journal "Vels Journal of Mechanical Engineering" to encourage the researchers in our university and in India to write quality articles in the concerned discipline.

Vels University is selected as a Remote Center of IIT Bombay and IIT Khargpur for conducting workshops. So far 15 workshops are conducted. IIT Bombay has given to Vels University 286 Aakash tablets for conducting regular classes. Library of Vels University has 18500 books (3033 titles), 34 International and 35 National Journals, 966 E-journals, 424 back volumes exclusively for School of Engineering. The School of Engineering has started several student chapters such as ASME, IE, IEEE, IETE, ISTE, NIQR, IAENG etc. Programs such as workshops, invited talks, industrial visits etc are regularly conducted. Several experts from industry, research and development organizations and academia visit Vels University and deliver "invited talks" regularly. In addition to theoretical and practical courses various add-on courses like SAP, MATLAB, ROBOTICS etc. in collaboration with industries and research institutions at the national and international levels are offered for the benefit of the students. Around 70% of our students have been successfully placed in various leading core companies in and around Chennai. As per Times of India Ranking Surevy - June 2015, Vels University is 55th among top 100 Engineering Institutes in India, 22nd among top 50 Private Engineering Institutes in India and 6th among top 50 Private Engineering Institutes in Tamil Nadu.



Program : B.E. Automobile Engineering

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

- Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects
- Should have passed the Higher Secondary Examination of Vocational Stream (Vocational Groups in Engineering Technology)
- The candidate who passes the diploma in Engineering Technology awarded by the concerned State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech in the branch corresponding to the branch of study.
- The candidate who passes the degree in Science (B.Sc (10+2+3) stream with Mathematics as a subject at the B.Sc Level are eligible to apply for Lateral Entry admission to the third semester of B.E., / B Tech.



Program Objectives

- To make the student acquainted with the automotive history and its development, understand the role of the automobile industry in the national growth.
- To make the student conversant with the automotive drive train and transmission systems.
- To make the student conversant with the basics, construction, working and various types of Suspension and Brake System used in the automobile.
- To make the student as an expert in design and analyze the automotive engine components, vehicle chassis, suspension and drive train.
- To make the student conversant with the emerging fields like alternate fuels, fuel cells, electric and hybrid vehicles.
- To understand the emerging trends of new systems in automotive passenger safety.
- To make the student as a team leader with new concepts on developing arenas and pursuing higher education.



SEMESTER I

- English
- Physics
- Mathematics - I
- Basic Electrical Engineering
- Engineering Graphics & Design

SEMESTER II

- Chemistry
- Mathematics - II
- Programming for Problem solving

SEMESTER III

- Mathematics - III
- Engineering Thermodynamics
- Electrical Drives and Control
- Automotive Engines
- Manufacturing Technology
- Fluid Mechanics and Machinery

SEMESTER IV

- Mathematics - IV
- Automotive Fuels and Lubricants
- Engineering Metallurgy
- Automotive Chassis
- Heat and Mass Transfer
- Environmental Science and Engineering

SEMESTER V

- Automotive Transmission
- Automotive Engine Components Design
- Vehicle Design Data Characteristics
- Automotive Pollution and Control
- Energy Audit and Energy Conservation Methods

SEMESTER VI

- Automotive Electrical and Electronics Systems
- Automotive Chassis Components Design
- Two and Three Wheelers
- Alternate Fuels and energy systems
- Vehicle Dynamics

SEMESTER VII

- Special Types of Vehicles
- Advanced Theory of I.C. Engines
- Vehicle Body Engineering
- Total Quality Management
- Simulation of I.C Engine Processes

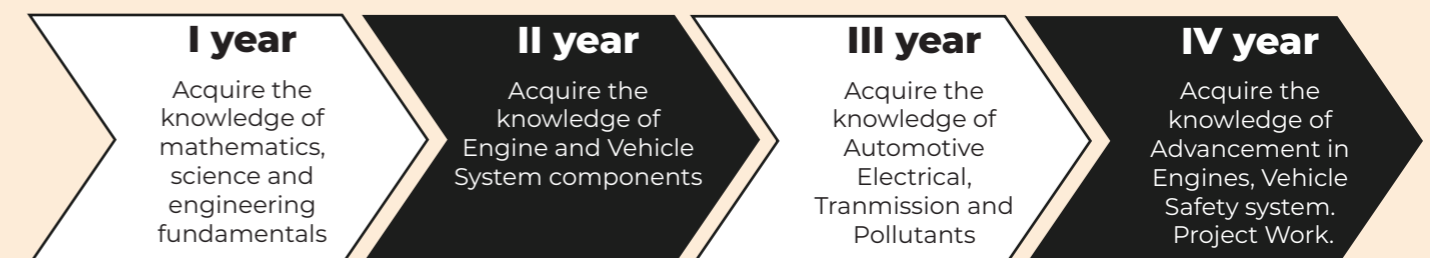
SEMESTER VIII

- Modern Automobile Accessories
- Automotive Air-Conditioning
- Industrial Marketing and Market Research
- Project Work

Career Prospects

- A wide range of career options are available in private and public sector companies such as the civil services, defence force, industrial consultancy and project management.
- This field offers a wide range of opportunities for aspirants and includes manufacturing companies, production plants, supply chain management and Design Companies.

Flow Chart



Program : M.E. Automobile Engineering

Duration : 2 Year (4 Semesters)

Eligibility for Admission :

- B.E / B.Tech (Mech/ Auto/ Production/ Manufacturing/ CIM / Metallurgy / IE / Mechatronics) OR
- Candidate with Section A & B Certificate Holders and other similar Certificate Holders of Professional Bodies or Societies (Eg. AMIE)



Program Objectives

- To make the student familiar with the various system and components of vehicles and the Internal Combustion Engines.
- To make the student conversant with recent trends in the Axles, Steering System, Tyres and Wheel terminology
- To make the student conversant with the advancement in Suspension and Brake System used in the automobile.
- To make the student knowledgeable with the various Automobile Electrical and Electronic System and its latest advancement in the vehicles.
- To make the students as an entrepreneur to build the nation, by imparting technical ideas and administrative expertise.
- The graduate will be able to design and development of the subsystems of various vehicles and they will be familiar in manufacturing, assembly and testing.



SEMESTER I

- Applied Mathematics
- Automotive Chassis and Transmission
- Automotive Engines and Accessories
- Automotive Electrical and Electronics
- Production of Automotive Components

SEMESTER III

- Automotive Safety
- Alternative Fuels
- Hydraulic and Pneumatic Systems

SEMESTER II

- Automotive Pollution and Control
- Vehicle Dynamics
- Vehicle Body Engineering
- Two and Three Wheelers
- Total Quality System and Engineering

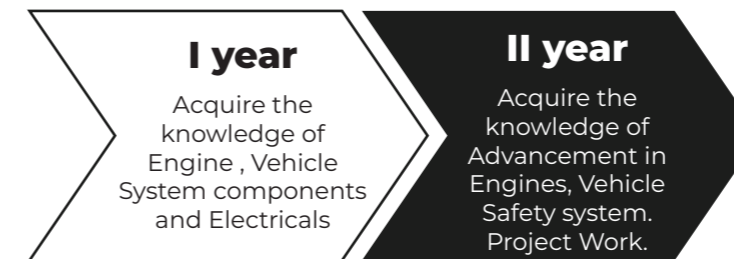
SEMESTER IV

- Project Work

Career Prospects

- Graduate will be able to develop advanced tools for evaluating performance of IC Engines and Vehicles with respect to materials, machine and other resources.
- To make the student as an expert in design and analyze the automotive engine components, vehicle chassis, suspension and drive train.

Flow Chart



Program : B.E. Civil Engineering

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examination of any other authority accepted by the BOM of VISTAS as equivalent (or) Should have passed the Higher Secondary Examination of Vocational Stream (Vocational Groups in Engineering Technology)



Program Objectives

- Become successful Civil Engineer to meet the demand driven needs in the field of Civil Engineering and related profession
- Demonstrate technical competence to pursue higher study or research in reputed institutes
- Exhibit good proficiency in core areas of Civil and related engineering by offering/ assisting consultancy and testing services with sound knowledge on professional ethics throughout their lifetime
- Acquire necessary skills to work in multi-disciplinary teams and engage themselves in lifelong learning



SEMESTER I

- Mechanics and Mechanics of Solids
- English
- Engineering Graphics & Design
- Basic Electrical Engineering
- Calculus, Multivariable Calculus & Linear Algebra

SEMESTER III

- Fourier Series & Transform
- Engineering Mechanics
- Energy Science & Engineering
- Introduction to Solid Mechanics
- Introduction to Civil Engineering
- Building Construction Practice

SEMESTER V

- Mechanics of Materials
- Hydraulic Engineering
- Structural Engineering
- Geotechnical Engineering
- Survey Camp
- Constitution of India
- Environmental Engineering
- Air Pollution Management

SEMESTER VII

- Engineering Economics, Estimation & Costing
- Earthquake Engineering
- Design of Pre-stressed Concrete Structures
- Role of Citizens in Environment Conservation
- Total Quality Management

SEMESTER II

- Engineering Chemistry
- Differential Equations
- Programming for Problem Solving
- Manufacturing Practices

SEMESTER IV

- Probability and Statistics
- Introduction to Fluid Mechanics
- Surveying & Geomatics
- Disaster Preparedness & Planning
- Engineering Geology
- Environmental Science & Engineering
- Basic Life Skills

SEMESTER VI

- Hydrology & Water Resources
- Transportation Engineering
- Construction Engineering & Management
- Design of Steel Structures
- Concrete Technology
- Principles of Architecture
- Internship

SEMESTER VIII

- Solid & Hazardous Waste Management
- E- Commerce
- Global Warming and Climate Change
- Project Work

Career Prospects

Graduates of Civil Engineering has the option to opt for either public sector companies like NTPC, BPCL, ONGC, DRDO, ISRO, CPWD or opt for civil services and can become IAS. The various careers available for civil engineers are Construction managers, Geotechnical Engineers, Environmental Engineers, Public Health Engineers, Quantity Surveyors, Transportation Engineers, Urban Planners, Engineering Geologist, Contractors, Entrepreneurs etc. With the advent of technology in Civil Engineering field, a wide scope of career prospects have opened up for Civil Engineers like BIM Expert, Planning and Scheduling Engineer, City Planner, Safety Engineer, Disaster Management Response Engineer, Fire and Risk Assessment Engineer, Seismic Design Engineer etc.

Program : M.E. Construction Engineering and Management

Duration : 2 Year (4 Semesters)

Eligibility for Admission :

- Should have passed B.E / B.Tech degree in (Civil Engineering / Civil and Structural Engineering)



SEMESTER I

- Statistical Methods and Queuing Theory
- Modern Materials of Construction
- Construction Equipments and Methods
- Project Formulations and Appraisal
- Field Seminar

SEMESTER II

- Advanced Construction Techniques
- Contract Laws and Regulation
- Quality Control and Assurance in Construction
- Building Services and Maintenance
- Fundamentals of Entrepreneurship

SEMESTER III

- Construction Project Management
- Management Information Systems
- Global Warming and Climate Change
- Inplant Training

SEMESTER IV

- Project Work

Career Prospects

This course is a professional course with a duration on 2 years that prepares post graduates in designing, planning, construction and management of various infrastructure projects like highways, roads, bridges, airports, buildings, ports, dams and other civil projects. The postgraduates can be employed as Construction Planning Engineer, Site Engineer, Scientists in reputed CBRI, Site Engineer, Management Engineer, Senior Manager, Senior Engineer, Entrepreneur, Technical Field Engineer, Tunnel Construction Engineer, Consultant etc.

Program Objectives

- Competent with the contemporary developments in construction technology, concrete technology and composite materials, their properties and practical applications
- Succeed in construction management careers emphasizing applications of construction management principles with the ability to solve broad range of problems in construction
- Acquire, Apply and communicate latest knowledge and tools to construction industry and technical institutes in the desired form through lifelong learning
- Develop cost-effective solutions for a sustainable environment with deep insight in societal and ecological issues by adhering to professionalism



Program : DEGREE OF BACHELOR OF TECHNOLOGY IN BIOTECHNOLOGY

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examination of any other authority accepted by the BOM of VISTAS as equivalent (or) apart from MPC Biology as fourth paper as preferable



Program Objectives

- To conduct research in major areas of Biotechnology
- To enhance the human resource in Biotechnology through students by encouraging them in research areas.
- To get placements in well reputed companies and research institutes.
- The major thrust of the department includes Plant biotechnology, fungal biotechnology, Environmental Biotechnology, Computational Biology and Infectious diseases.



SEMESTER I

- Chemistry
- Mathematics – I (Calculus & Linear Algebra)
- Programming for Problem solving
- Chemistry Lab
- Programming for problem solving Lab
- Workshop / Manufacturing Practices
- Constitution of India

SEMESTER III

- Mathematics III
- Introduction to Biotechnology
- Microbiology
- Biochemistry
- Basic Industrial Biotechnology
- Cell Biology
- Cell and Microbiology Laboratory
- Biochemistry Laboratory
- Personality Development I
- Essence of Indian Traditional Knowledge

SEMESTER V

- Molecular Biology
- Protein Structure, Function and Proteomics
- Bioinformatics and Computational Biology
- Heat transfer Operations
- Open Elective - I
- Professional Elective - I
- Personality Development III
- Molecular Biology Laboratory
- Bioinformatics Laboratory
- Industrial Visit/NSS

SEMESTER VII

- Professional Elective- IV
- Professional Elective - V
- Professional Elective - VI
- Open Elective - III
- Downstream processing Laboratory
- Principles of management
- Project Phase I

SEMESTER II

- English
- Physics (Oscillation, Waves and Optics)
- Mathematics – II (Probability and Statistics)
- Basic Electrical Engineering
- Engineering Graphics & Design
- Physics Lab
- Electrical Engineering Lab
- English Lab

SEMESTER IV

- Bio Organic chemistry
- Bioprocess Principles
- Enzyme Technology and Bio transformations
- Analytical Methods and Instrumentation
- Chemical Reaction Engineering
- Environmental Science and Engineering
- Personality Development II
- Analytical Methods and Instrumentation Laboratory
- Bioprocess Laboratory
- Basic Life Skills Industrial Visit/NSS

SEMESTER VI

- Genetic Engineering and Genomics
- Animal Biotechnology
- Immunology
- Professional Elective - II
- Professional Elective - III
- Open Elective - II
- Personality Development IV
- Genetic Engineering Laboratory
- Immunology Laboratory
- Summer Internship

SEMESTER VIII

- Professional Elective - VII
- Open Elective - IV
- Open Elective - V
- Project Phase II

Career Prospects

The syllabus of the programme covers the latest developments in their corresponding stream and has designed based on the student's developing skills in industry and research-oriented field and to expertise in common national level examinations. The strong infrastructure of services is the key to ensuring academic success of higher learning. Apart from fundamental research, the department aims to meet the targeted demands to cater the requirements of Biotechnology based industries. A wide range of career options are available in private and government sectors for research and in biotech industries.

Flow Chart



Program : B.E. Electronics & Communication Engineering

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Regular: Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examination of any other authority accepted by the BOM of VISTAS as equivalent (or) Should have passed the Higher Secondary Examination of Vocational Stream (Vocational Groups in Engineering Technology)

Lateral Entry: The candidate who passes the diploma in Engineering Technology awarded by the concerned State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech in the branch corresponding to the branch of study. (or) The candidate who passes the degree in Science (B.Sc (10+2+3) stream with Mathematics as a subject at the B.Sc Level are eligible to apply for Lateral Entry admission to the third semester of B.E., / B.Tech. Such candidates shall undergo two additional Engineering subject(s) in the third and fourth.



Program Objectives

- The programme aim to be a centre of excellence in the field of Electronics and Communication Engineering equipped with the state of art technologies to produce highly competent, resourceful and ethical young professionals who produce innovative solutions to the needs of the society and excel in the varied professions globally.
- The programme also focuses on the design of underlying hardware and software systems that will help the students to seek a career with necessary core competency to succeed in engineering / entrepreneurship as career options.



SEMESTER I

- Chemistry
- Mathematics 1 (Calculus and Linear Algebra)
- Programming for problem solving
- Chemistry lab
- Programming for problem solving lab
- Workshop/Manufacturing Practices
- Constitution of India

SEMESTER III

- Mathematics 3 (Fourier series and transforms)
- Electronic Devices
- Material science
- Digital system design
- Signals and systems
- Network theory
- Electronic Devices laboratory
- Digital system design laboratory
- Personality development 1
- Human rights , law and practice.

SEMESTER V

- Mathematics -V
- Electro-magnetic Waves
- Computer Architecture
- Digital Signal Processing
- Professional Elective-I
- Open Elective-1
- Personality Development III
- Electro – magnetic Waves Laboratory
- Digital Signal Processing Laboratory

SEMESTER VII

- Research Methodology & Legal Writing
- Comparative Public Law / Systems of Governance
- Law and Justice in a Globalising World
- Indian Constitutional Law : The New Challenges
- Research Project

SEMESTER II

- English
- Physics (oscillation, waves and optics)
- Mathematics-2(Calculus, ordinary differential equations, and complex variable)
- Basic electrical engineering
- Engineering graphics and design
- Physics laboratory
- Electrical engineering laboratory
- English laboratory

SEMESTER IV

- Mathematics-IV
- Introduction to MATT AB
- Linear Integrated Circuits
- Analog Circuits
- Environmental Science and Engineering
- Personality Development!!
- Analog and Digital Communication Laboratory
- Analog Circuits Laboratory
- Internship
- Basic Life Skills

SEMESTER VI

- Control Systems
- Computer Networks
- Microcontrollers
- Professional Elective- II
- Professional Elective-III
- Open Elective-II
- Personality Development -IV
- Computer Networks Laboratory
- Microcontrollers Laboratory
- Internship
- Industrial Visit

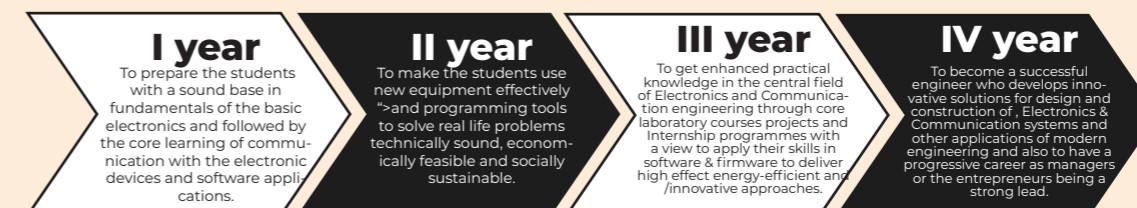
SEMESTER VIII

- Professional Elective
- Open Elective
- Open Elective-17
- Project Phase-II

Career Prospects

There is no dearth of good opportunities for an Electronics and Communication Engineer as they can avail job opportunities in a multitude of industries upon successful completion of their degrees. Indian Telephone Industries, Civil Aviation, Development Centers in various States, Defense, A.I.R, Railways, Bharat Electronics Limited, D.R.D.O, Telecommunication, Software Engineering/IT, Power sector, Hardware Manufacturing, Home Appliance and VLSI design, Television Industry and Research & Development etc are some of the popular sectors where the services of an Electronics and Communication engineer are required. Ever since the evolution of technology, Electronics and Communication has become an essential discipline which is required by all the industries.

Flow Chart



Program : B.E - Electrical and Electronics Engineering

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Regular B.E : Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examinations of any other authority accepted by the BOM of VISTAS as equivalent (or) Should have passed the Higher Secondary Examination of Vocational Stream (Vocational Groups in Engineering Technology)

Lateral Entry B.E : The candidate who passes the diploma in Engineering Technology awarded by the concerned State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech in the branch corresponding to the branch of study. (or) The candidate who passes the degree in Science (B.Sc (10+2+3) stream with Mathematics as a subject at the B.Sc Level are eligible to apply for Lateral Entry admission to the third semester of B.E., / B.Tech. Such candidates shall undergo two additional Engineering subject(s) in the third and fourth semesters as prescribed by the University.



Program Objectives

- To impart high quality education in the field of Electrical and Electronics Engineering to produce globally competent, imaginative and inventive engineers.
- To provide solutions to the real world problems with multi disciplinary approach.
- To make a significant contribution towards the economic, scientific and communal growth using engineering skills in an ethical and responsible manner.



SEMESTER I

- Chemistry
- Mathematics —I
- Programming for Problem solving
- Chemistry Lab
- Programming for problem solving Laboratory
- Workshop/ Manufacturing Practices laboratory

SEMESTER III

- Mathematics III
- Electromagnetic Theory
- Engineering Mechanics
- Electrical Circuit Analysis
- Analog Electronics
- Electrical Machines
- Electrical Machines-1 Laboratory
- Electric Circuits Laboratory
- Personality Development- 1
- National Service Scheme

SEMESTER V

- Power Electronics
- Transmission and Distribution
- Control Systems
- Special Electrical Machines
- Open Elective— I
- Professional Elective— I
- Personality Development III
- Power Electronics Laboratory
- Measurements and Control Systems Laboratory

SEMESTER VII

- Professional Elective— IV
- Professional Elective— V
- Professional Elective— VI
- Open Elective — III
- Professional Ethics in Engineering ·
- Microprocessors and Micro Controllers Laboratory
- Project Phase - I

SEMESTER II

- English
- Physics
- Mathematics-II
- Basic Electrical Engineering
- Engineering Graphics & Design
- Physics Lab
- Electrical Engineering Laboratory
- English Laboratory

SEMESTER IV

- Mathematics IV
- Measurements and Instrumentation
- Digital Electronics
- Electrical Machines — II
- Linear Integrated Circuits
- Environmental Science and Engineering
- Personality Development - II
- Analog & Digital Electronics Laboratory
- Electrical Machines — II Laboratory
- Basic Life Skills

SEMESTER VI

- Power System Analysis ·
- Solid State Drives ·
- Microprocessors and Micro Controllers ·
- Professional Elective—II ·
- Professional Elective—III ·
- Open Elective— II ·
- Personality Development -IV ·
- Power Systems Laboratory ·
- Electrical Drives Laboratory ·
- Summer Internship

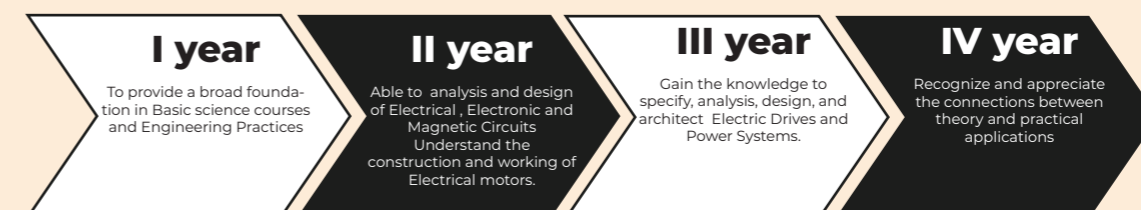
SEMESTER VIII

- Professional Elective—VII
- Open Elective—IV
- Open Elective— V
- Project Phase-II

Career Prospects

- Electrical Engineering opens up career options in a wide range of areas. The Job responsibilities include design, development, and implementation of products or systems, as well as research to create new ideas.
- They may enter the fields of Electrical, Electronics, Telecommunications, Information Technology, Robotics, Biomedical electronics and signal processing, Industrial process
- control, Transportation or Automobile engineering, Energy operation and distribution, Electro-mechanical energy conversion, Aerospace, Microelectronics and nanoelectronics etc.
- The graduates get job opportunities in State government departments like Electricity Board, Public Works Departments etc., and also the Public sector undertakings (PSUs), where electrical engineers employed are 10 Maharatnas, 14 Navratnas and 73 Miniratnas.

Flow Chart



Program : B.E - MECHANICAL ENGINEERING

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Regular B.E : Successfully completed (10+2) years with Mathematics, Physics and Chemistry or any examination of other authority accepted by the BOM of VISTAS as equivalent (or) higher secondary examination of vocational stream. Usual concession for minimum marks as stipulated by University and the State Government from time to time shall apply to SC/ST, OBC, and Other Categories of candidates.

Lateral Entry B.E : Diploma in Engineering Technology awarded by State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission (or) B.Sc in science stream (10+2+3) with Mathematics. Merit Based on Vels Entrance Examination Score and Merit Based on Percentage of Marks secured in the qualifying examination.



Program Objectives

- To impart fundamentals of Engineering & Technology and applied Mathematics to transform the students as Mechanical Engineers.
- To nurture design, analysis and implementation skills to innovate the process or system in Mechanical Engineering with global context.
- To apply Mechanical Engineering knowledge and problem solving skills in professional engineering practice offers optimal solution to industrial and societal problems.
- To initiate the entrepreneurial activities and leadership qualities of the students through the effective communication skills.
- To develop the awareness among the students about the various social responsibilities related to Engineering ethics and human values with ecological awareness.



SEMESTER I

- English
- Physics · Mathematics-I
- Basic Electrical Engineering
- Engineering graphics and design
- Physics lab
- Electrical Engineering lab
- English lab

SEMESTER III

- Mathematics-III
- Engineering Thermodynamics
- Electric drives and controls
- Engineering Mechanics
- Manufacturing technology I
- Engineering materials and metallurgy
- Computer aided machine design lab
- Manufacturing technology lab
- Personality development I
- Industrial safety

SEMESTER V

- Engineering Metrology and Measurements
- Design of Machine Elements
- Dynamics Of Machinery
- Discipline Specific Elective V
- Discipline Specific Elective VI
- Generic Elective III
- Skill Enhancement Elective III
- Metrology and Measurements Laboratory
- Dynamics Laboratory
- Industrial Safety

SEMESTER VII

- Mechatronics
- Computer Integrated Manufacturing
- Power Plant Engineering
- Discipline Specific Elective IX
- Discipline Specific Elective X
- Generic Elective V
- Skill Enhancement Elective V
- Computer Aided Simulation and Analysis Laboratory
- Mechatronics Laboratory
- Mini Project & Seminar

SEMESTER II

- Chemistry · Mathematics-II
- Programming for problem solving
- Chemistry lab
- Programming for problem solving
- Manufacturing Practices Lab
- Constitution of India

SEMESTER IV

- Mathematics IV
- Strength of Materials
- Manufacturing Technology
- Kinematics of Machinery
- Fluid Mechanics and Machinery
- Environmental Science and engineering
- Personality Development II
- Fluid Mechanics and Strength of Materials lab
- Kinematics and Dynamics Laboratory
- Yoga

SEMESTER VI

- Finite Element Analysis
- Thermal Engineering
- Design of Transmission Systems
- Discipline Specific Elective VII
- Discipline Specific Elective VIII
- Generic Elective IV
- Skill Enhancement Elective IV
- Thermal Engineering Laboratory
- CAM Laboratory
- In-Plant Training

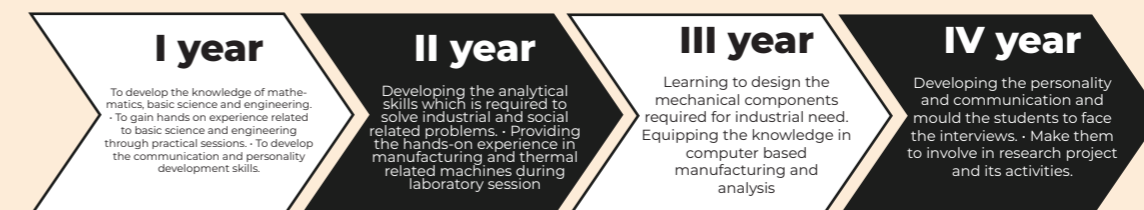
SEMESTER VIII

- Discipline Specific Elective XI
- Discipline Specific Elective XII
- Generic Elective VI
- Project Work

Career Prospects

A wide range of career options are available in private and public sector companies such as civil services, defence, industrial consultancy and project management. Emerging areas have opened new vistas including entrepreneurship, supply chain management, CAD, CAM and ERP. This field offers a wide range of opportunities for aspirants and includes manufacturing companies, production plants and Design Companies.

Flow Chart



Program : M.E. Computer Intergrated Engineering

Duration : 2 Year (4 Semesters)

Eligibility for Admission :

- B.E / B.Tech (Mech. / Auto / Production / Manufacturing / CIM / Metallurgy / IE / Mechatronics) OR
- Candidate with Section A& B Certificate Holders and other similar Certificate Holders of Professional Bodies or Societies (Eg. AMIE).



Program Objectives

- To impart the fundamental and the latest technological knowledge to students in the topics on Computer Aided Design, Computer Aided Manufacturing and Computer Aided Engineering Analysis.
- To broaden and deepen their capabilities in analytical and experimental research methods, analysis of data, and drawing relevant conclusions for scholarly writing and presentation.
- To create the knowledge on Computer Integrated Manufacturing environmental and learn about the importance of data generation management in CIMS.
- To develop the broad knowledge to the students in learning steps in upgrading from Flexible Manufacturing System (FMS) to Computer Integrated Manufacturing (CIM) environment.
- To create a congenial environment that promotes learning, growth and imparts ability to work with interdisciplinary groups in professional, industry and research organizations. The semester wise subject plan are,



SEMESTER I

- Optimization Techniques
- Flexible Competitive Manufacturing System
- Applied Materials Engineering
- Metrology and Non-Destructive Testing
- Computer Aided Process Planning
- Seminar I

SEMESTER III

- Total Quality System and Engineering
- Discipline Specific Elective IV
- Computer Applications in Manufacturing
- Project Work — Phase I

SEMESTER II

- Computer Aided Design and Manufacturing
- Manufacturing Information Systems
- Supply Chain Management
- Production and Operations Management
- Design of Hydraulic and Pneumatic Systems
- Computer Integrated Manufacturing LAB
- In-Plant Training

SEMESTER IV

- Project Work — Phase II

Career Prospects

This course prepares postgraduates for employment in different industries as a maintenance engineer, renewable energy engineer, industrial programmer, field service engineer, industrial controls, system integration and in automated manufacturing. Postgraduates will be prepared to install, program, interface, service, troubleshoot and implement automated equipment and robotic systems for various applications.

Flow Chart



Program : B.E - BIOMEDICAL ENGINEERING

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Regular B.E : Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examination of any other authority accepted by the BOM of VISTAS as equivalent (or) Should have passed the Higher Secondary Examination of Vocational Stream (Vocational Groups in Engineering Technology)

Lateral Entry B.E : The candidate who passes the diploma in Engineering Technology awarded by the concerned State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech in the branch corresponding to the branch of study. (or) The candidate who passes the degree in Science (B.Sc (10+2+3) stream with Mathematics as a subject at the B.Sc Level are eligible to apply for Lateral Entry admission to the third semester of B.E., / B Tech. Such candidates shall undergo two additional Engineering subject(s) in the third and fourth.



Program Objectives

- To gain knowledge concerned with the design, development, installation, operation, and maintenance of any medical device, equipments or accessories along with the basic biological sciences.
- To focus on producing Biomedical engineers who can contribute in numerous functions in hospitals and industries such as product and process design, R&D, production, maintenance, production planning and control, quality management, calibration and testing, technical marketing, projects management, system analytics.
- To acquire core knowledge in Biomedical Engineering and able to solve industrial as well as societal problems with ethical and environmental consciousness.
- To impart technological concepts and tools on emerging fields through the Managerial and entrepreneurs skills.
- To nurture the graduates with contextual knowledge, Professional ethical responsibility who can become a good leader in diverse team



SEMESTER I

- English,
- Physics (Oscillation waves and Optics),
- Mathematics – I (Calculus and Linear Algebra),
- Basic Electrical Engineering,
- Engineering Graphics & Design,
- Physics Lab,
- Electrical Engineering Lab,
- English Lab

SEMESTER II

- Chemistry,
- Mathematics – II (Probability and Statistics)
- Programming for Problem Solving
- Chemistry Lab
- Programming for Problem Solving Lab
- Workshop/Manufacturing Practices

SEMESTER III

- Mathematics III
- Biochemistry
- Electronic Devices and Circuits
- Human Anatomy and Physiology
- Bioinstrumentation and Measurements
- Biomechanics and Biofluids
- Human Anatomy and Physiology Lab
- Electronic Devices and Circuits Lab
- Personality Development I
- Essence of Indian Traditional Knowledge

SEMESTER IV

- Fiber Optics and Lasers in Medicine
- Biosensors and Transducers
- Bio control Systems
- Biomaterials and Artificial Organs
- Microprocessor & Microcontroller
- Environmental Science and Engineering
- Personality Development II
- Sensors and Transducers Laboratory
- Basic Life Skills

SEMESTER V

- Diagnostic Instrumentation
- Bio Signal Processing
- Medical Optics
- Radiological Equipment
- Professional Elective – I
- Open Elective – I
- Personality Development III
- Diagnostic Instrumentation Laboratory
- Industrial Visit

SEMESTER VI

- Therapeutic Equipments
- Medical Image Processing
- Rehabilitation Engineering
- Professional Elective – II
- Professional Elective – III
- Open Elective – II
- Personality Development VI
- Therapeutic Equipment Laboratory
- Medical Image Processing Laboratory
- Internship

SEMESTER VII

- Professional Elective – IV
- Professional Elective – V
- Professional Elective – VI
- Open Elective – III
- Virtual Instrumentation Laboratory
- HS course
- Project Phase I

SEMESTER VIII

- Professional Elective – VII
- Open Elective – IV
- Open Elective – V
- Project Phase II

Career Prospects

- wide range of career options are available in private and public sector companies such as the hospitals, manufactural industries, defense force, Production management, maintenance, marketing and design management.
- Emerging areas have opened new abilities including entrepreneurship, supply chain management, Software knowledge (MATLAB, Python) and equipment maintenance skills.
- The field offers a wide range of opportunities for aspirants and includes manufacturing companies, production units, Design Companies and hospitals.

Flow Chart



Program : B.E - Computer Science and Engineering

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

- HSC with Mathematics, Physics and Chemistry
- HSC with Vocational Groups in Engineering Technology



Program Objectives

- Computer Science and Engineering is mainly focused on building a strong foundation in mathematical and algorithmic concepts.
- It has a strong industry linkage to make students industry-ready.
- It also includes nurturing the young minds with sufficient depth of knowledge in Computer Science Engineering for those interested in higher studies.
- The programme emphasis on Digital Transformation Technologies and also offers necessary flexibility to students to pursue their own interests through electives and projects.



SEMESTER I

- Calculus & Linear Algebra
- Chemistry
- Programming for Problem Solving
- Chemistry Lab
- Programming for Problem Solving LAB
- Workshop/Manufacturing Practices

SEMESTER II

- English
- Physics(Semiconductor Physics)
- Mathematics-II(Probability and Statistics)
- Basic Electrical Engineering
- Engineering Graphics & Design
- Physics Lab
- Electrical Engineering Lab
- English Lab

SEMESTER III

- Mathematics III (Fourier Series and Transforms)
- Microprocessors and Microcontrollers
- Digital Electronics
- Operating Systems
- Object Oriented Programming
- Design and Analysis of Algorithms
- Operating Systems Laboratory
- Object Oriented Programming Laboratory
- Personality Development I
- Constitution of India
- Systems, Applications and Products

SEMESTER IV

- Mathematics IV
- Computer Organization and Architecture
- Database Management Systems
- Data Structures
- Python programming
- Environment science and Engineering
- Database Management Systems Lab
- Data Structures using python Lab
- Personality Development II
- Basic Life Skills

SEMESTER V

- Mathematics V (Discrete Mathematics)
- Foundation Course in Enterprise Application
- Development using IBM Rotational Tools
- Computational Networks
- Data Warehousing and Data Mining
- Open Elective – I
- Professional Elective – I
- Computer Networks Laboratory
- Java Programming Laboratory
- Personality Development III

SEMESTER VI

- Foundation Course in Cloud Computing
- Enterprise Mobile Application Development
- Internet Programming
- Professional Elective – III
- Professional Elective – III
- Open Elective – II
- Mobile Application Development Lab
- Internet Programming Lab
- Personality Development IV
- Internship

SEMESTER VII

- Professional Elective – IV
- Professional Elective – V
- Professional Elective – VI
- Open Elective – III
- Open Source & Net Programming
- Lab/Machine Learning laboratory
- Economics For Engineers
- Project Phase I

SEMESTER VIII

- Professional Elective - VII
- Open Elective - IV
- Open Elective - V
- Project Phase II

Career Prospects

- A multitude of career choices that span across the Public and Private Sectors await our graduates.
- They can expect higher employment opportunities and salary upon graduation, following a marked increase in demand and the remuneration of IT professionals.
- Our Alumni work for many government agencies also.

Program : B.Tech Information Technology – Cloud & Mobile based Application Development

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

- HSC with Mathematics, Physics and Chemistry
- HSC with Vocational Groups in Engineering Technology



Program Objectives

- B.Tech in Information Technology – Cloud & Mobile based Application Development is a programme taking place in association with IBM.
- It meets the computational needs of software industry and business with an emphasis on technology.
- The exponential growth of user expectations and the increasing workload has created immense requirements for the professionals in the field of Information Technology.
- The course focuses on complete software development life cycle, database system, knowledge discovery with judicious blend of technical skills.



SEMESTER I

- Calculus & Linear Algebra
- Chemistry
- Programming for Problem Solving
- Chemistry Lab
- Programming for Problem Solving LAB
- Workshop/Manufacturing Practices

SEMESTER III

- Mathematics III (Fourier Series and Transforms)
- Microprocessors and Microcontrollers
- Digital Electronics
- Operating Systems
- Object Oriented Programming
- Design and Analysis of Algorithms
- Operating Systems Laboratory
- Object Oriented Programming Laboratory
- Personality Development I
- Constitution of India
- Systems, Applications and Products

SEMESTER V

- Mathematics V (Discrete Mathematics)
- Foundation Course in Enterprise Application
- Development using IBM Rotational Tools
- Computational Networks
- Data Warehousing and Data Mining
- Open Elective – I
- Professional Elective – I
- Computer Networks Laboratory
- Java Programming Laboratory
- Personality Development III

SEMESTER VII

- Professional Elective – IV
- Professional Elective – V
- Professional Elective – VI
- Open Elective – III
- Open Source & Net Programming
- Lab/Machine Learning laboratory
- Economics For Engineers
- Project Phase I

SEMESTER II

- English
- Physics(Semiconductor Physics)
- Mathematics-II(Probability and Statistics)
- Basic Electrical Engineering
- Engineering Graphics & Design
- Physics Lab
- Electrical Engineering Lab
- English Lab

SEMESTER IV

- Mathematics IV
- Computer Organization and Architecture
- Database Management Systems
- Data Structures
- Python programming
- Environment science and Engineering
- Database Management Systems Lab
- Data Structures using python Lab
- Personality Development II
- Basic Life Skills

SEMESTER VI

- Foundation Course in Cloud Computing
- Enterprise Mobile Application Development
- Internet Programming
- Professional Elective – III
- Professional Elective – III
- Open Elective – II
- Mobile Application Development Lab
- Internet Programming Lab
- Personality Development IV
- Internship

SEMESTER VIII

- Professional Elective - VII
- Open Elective - IV
- Open Elective - V
- Project Phase II

Career Prospects

- A multitude of career choices that span across the Public and Private Sectors await our graduates.
- They can expect higher employment opportunities and salary upon graduation, following a marked increase in demand and the remuneration of IT professionals.
- Our Alumni work for many government agencies also.

Program : M.E. Computer Science and Engineering

Duration : 2 Year (4 Semesters)

Eligibility for Admission :

- B.E., / B.Tech., (ECE / Electronics) B.E., / B.Tech.,(EEE / ECE / Electronics / IT / CSE / I&C / E&I / Instrumentation
- MCA or M.Sc., 5 years integrated (IT / CS / Software Engineering)



SEMESTER I

- Operations Research
- Advanced Data Structures and Algorithms
- Advanced Computer Architecture
- Object Oriented Systems Engineering
- Discipline Specific Elective - I
- Seminar I

SEMESTER III

- Discipline Specific Elective - III
- Discipline Specific Elective - IV
- Generic Elective - I
- Project Work - Phase I

SEMESTER II

- UNIX Internals
- Compiler Optimization
- Parallel Algorithms
- Discipline Specific Elective - II
- Generic Elective - I
- UNIX Laboratory
- Inplant training

SEMESTER IV

- Project Work – Phase I

Career Prospects

- Getting a master's in Computer Science and Engineering from an acclaimed research institution with elite faculty differentiate you in the job market and increase your earning potential.
- This Master's programme connects the post graduates with current major Digital India project issues and prepares you for a career in research, whether in academia through PhD, at R&D institutes, or governmental organizations.

Program Objectives

- M.E. Computer Science and Engineering designed specifically to meet the needs of contemporary industrial and research environments.
- This programme blends advanced academic teaching with rigorous practical and theory sessions. This ensures that the post graduates have the skills, knowledge, and awareness to engage with computing and computer science engineering in a vast range of industries once they start their job and research career.



Program : DEGREE OF BACHELOR OF TECHNOLOGY IN PETROLEUM ENGINEERING

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

- Should have passed the Higher Secondary Examinations of (+2) Curriculum (Academic Stream) with Mathematics, Physics and Chemistry as three of the four subjects or any examination of any other authority accepted by the BOM of VISTAS as equivalent.
- The candidate who possess the Diploma in Petroleum/ Petrochemical/ Chemical/ Mechanical Engineering with minimum mark percentage 60% in academic awarded by the concerned State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.Tech in the branch corresponding to the branch of study (or) The candidate who owns B.Sc in Geology with minimum mark percentage of 60% in academics are eligible to apply for Lateral Entry admission to the third semester of B. Tech.



Program Objectives

- To learn various hydrocarbon exploration methods, hydrocarbon source and cap rock characterization techniques, field surveying and mapping the surface and sub-surface features to help finalize a pilot plan for exploration drilling.
- To learn various types of drilling rigs including power systems, fluid circulation systems, well control systems, well monitoring systems, rotary systems, hoisting, drill string assemblies, cementation, directional drilling, and their economics for finalizing a drilling plan.
- To learn various reservoir-well completions, methods of lifting hydrocarbon and other wellbore fluids to the surface by reservoir energy and/or artificial means, maintain efficient well production, stimulate reservoir, and design surface facilities required for oil and gas separation and preliminary processing and transportation.
- To characterize and model conventional and unconventional hydrocarbon reservoirs to estimate both the reserves and the production potential under natural and improved recovery methods for optimum development of a field.



SEMESTER I

- English
- Physics
- Mathematics-I
- Basic Electrical Engineering
- Engineering Graphics and Design
- Physics Lab
- Electrical Engineering Lab
- English Lab

SEMESTER III

- Mathematics -III
- Principles of Petroleum Engineering
- Petroleum Geology
- Petroleum Geophysics and Geochemistry
- Fluid Mechanics
- Electronics and Instrumentation
- Petroleum Geology Lab
- Fluid mechanics Lab
- Personality Development I
- HSE

SEMESTER V

- Reservoir Engineering -II
- Productions Equipment and Operations
- Well Testing
- Hydrocarbon Processing and Plant Engineering
- Open Elective - I
- Professional Elective - I
- Personality Development -III
- Petroleum Testing Lab
- Reservoir Engineering Lab
- Industrial Visit /NSS

SEMESTER VII

- Professional Elective -IV
- Professional Elective -V
- Professional Elective -VI
- AutoCAD
- Professional Ethics in Engineering
- Project Phase I
- Industrial Visit

SEMESTER II

- Chemistry
- Mathematics -II
- Programming for problem solving
- Chemistry Lab
- Programming for problem solving Lab
- Workshop/Manufacturing practices

SEMESTER IV

- Mathematics -IV
- Reservoir Engineering - I
- Petroleum Thermodynamics
- Drilling Operations and Equipments
- Drilling Fluids and Cements
- Environmental Science and Engineering
- Personality Development -II
- Core Analysis Lab
- Drilling Fluids and cementing lab
- Basic Life Skills

SEMESTER VI

- Reservoir Modelling and Simulation
- Formation Evaluation and well Logging
- EOR
- Professional Elective -II
- Professional Elective -III
- Open Elective -II
- Personality Development -IV
- Heat and Mass Transfer Lab
- STCW
- Summer Internship

SEMESTER VIII

- Professional Elective -VII
- Open Elective - IV
- Open Elective - V
- Project Phase II

Career Prospects

Career prospects for petroleum graduate engineers are fairly vibrant, lucrative in the field of oil and gas as petroleum companies have great influence and offer high salaries to employees. Depending upon the qualification, skill set and experience, Petroleum Engineer can work globally as Reservoir Engineer, Technical Support Engineer, Senior Geoscientist, Drill Bits System Field Engineer, Petroleum Technologist, Drilling Engineer, Production Engineer, Mud Engineer, Mud Logger, Completion Engineer, Flow assurance Engineer and Driller. Students are guided by experienced faculty experts from oil industry, Downstream Industry and Academia.

Program : DEGREE OF BACHELOR OF TECHNOLOGY IN NAVAL ARCHITECTURE AND OFFSHORE ENGINEERING

Duration : 4 Year (8 Semesters)

Eligibility for Admission :

Should have passed +2 with Mathematics, Physics and Chemistry or any examination of any other authority accepted by the BOM of VISTAS as equivalent.

Lateral Entry B.Tech

Diploma in Naval Architecture / Mechanical Engineering with minimum mark percentage of 60% in academics awarded by State Board of Technical Education or its equivalent are eligible to apply for Lateral entry admission.

Merit Based on Vels Entrance Examination Score and Merit Based on Percentage of Marks secured in the qualifying examination.



Program Objectives

- This course prepares Naval Architects and Offshore Engineers to meet the manpower demand by industry by imparting knowledge on basic science subjects and common engineering subjects for understanding the core subjects.
- Apart from this, the students have to undergo internship/ training in Ship yards/ Offshore design companies. They are also taught Ship Design and Offshore Design software such as Maxsurf, SACs, Moses, Marine AutoCAD, Ansys.
- In addition to this, the students have to do practical in Labs, Ship in campus and Workshops. By this way, the students are fully equipped to face any challenges in the industry.



SEMESTER I

- English
- Physics
- Mathematics-I
- Basic Electrical Engineering
- Engineering Graphics and Design
- Physics Lab
- Electrical Engineering Lab
- English Lab

SEMESTER III

- Maths – III
- Fluid Mechanics
- Engineering Mechanics
- Basic Ship Theory
- Fundamentals of Offshore Structures
- Marine Engineering
- Basics of CADD Software
- SM and FM Lab
- PD - I
- Industrial Safety

SEMESTER V

- Finite Element Analysis
- Ship Production I
- Advanced Offshore Engineering
- Ship Design
- Marine Materials and Metal Joining Techniques
- Professional Elective I
- PD - III
- Ship Design Calculation Drawing & Drafting – II
- Software - SACS
- SHIP VISIT

SEMESTER VII

- Dynamics of Offshore Structures
- Construction of Offshore Structures
- Professional Elective III
- Open Elective II
- Offshore Design Software - MOSES
- NSS I
- Major Design Project Phase I

SEMESTER II

- Chemistry
- Mathematics -II
- Programming for problem solving
- Chemistry Lab
- Programming for problem solving Lab
- Workshop/Manufacturing practices

SEMESTER IV

- Maths - IV
- Theory of Structures
- Hydrodynamic, Resistance & Propulsion
- Strength of Ships
- Marine Electrical Tech
- Ship Design Calculation Drawing & Drafting – I
- Software - Maxsurf
- Environmental Science and Engineering
- PD - II
- Yoga

SEMESTER VI

- Sea Keeping and Maneuvering
- Structural Design of Ships
- Structural Design of offshore Structures
- Ship Production II
- Professional Elective II
- Open Elective I
- PD - IV
- Ship Design Calculation Drawing & Drafting – III
- Shipyard Training
- Minor Project

SEMESTER VIII

- Port Design and Infrastructure
- Professional Elective IV
- Open Elective III
- Major Design Project-Phase-II

Career Prospects

Career prospects Naval architects are able to secure employment with companies those build marine structures and vessels. This includes

- Merchant Ships design companies which designs Passenger Vessels, General Cargo Ships, Container Vessels, Ro-Ro Vessels, Bulk Carriers etc.
- Oil and gas companies will hire naval architects to build ocean rigs,
- Indian Navy will hire Naval architects to design, build and maintain their marine vessels (for example, submarines, Frigates, Destroyers, Patrol Vessels, Aircraft Carriers, Mine Sweepers etc.).
- Cruise lines will hire naval architects to build recreational vessels.
- In shipyards to carry out the production of Merchant vessel

Career Prospects as Harbor Engineers includes

- Maintenance of Channels for the Ships to leave / enter the harbor.
- Improvements to natural harbors and construction of artificial ports and harbors
- Maintenance of Dry docks, Slipways and wet basins in the harbor.

Career prospects as Offshore Engineer includes

- Maintenance of oil rigs during operation
- Riser and Mooring Analysis
- Subsea Pipeline installation and decommissioning
- Sea fastening Analysis – transportation of materials to rigs through support vessels

Program : **CERTIFICATE COURSE IN DRILLING TECHNOLOGY**

Duration : 6 months

Eligibility for Admission :

- Candidates studying in UG/PG Course in VISTAS are eligible for the Certificate/Diploma Course.
- Candidates completed UG/PG courses in other institutions/ Universities are eligible



Program : **CERTIFICATE COURSE IN RISERS AND MOORING LINES**

Duration : 6 months

Eligibility for Admission :

- Candidates studying in UG/PG Course in VISTAS are eligible for the Certificate course
- Candidates completed UG/PG courses in other institutions/ Universities are eligible



Program Objectives

- Obtain knowledge on Drilling operations and Downhole tools
- Understand why drilling automation is the future
- Understand the significant parameters such as ROP, WOB, KOP, RPM and many which influences drilling operations
- Working guidelines for Drill bit
- Handling of Drilling Fluids

Career Prospects

- Roustabout
- Driller
- Rough neck
- Assistant Mud engineer



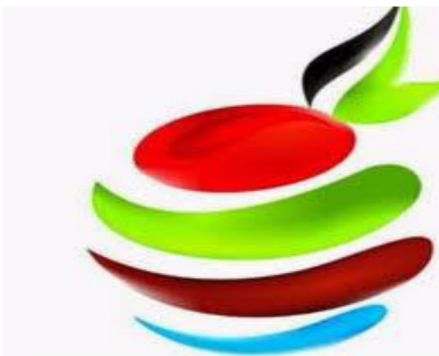
This program provides an intensive learning experience in the aspects of theory and practical areas of Offshore Engineering. This curriculum covers all the necessary inputs to provide expertise in Designing Risers and Mooring Lines.

Program Objectives

- To understand the basic concepts of Risers and Mooring lines behavior
- To examine the forces acting on the Risers and explain the different types of risers
- To evaluate the forces acting on the moorings and explain the types of mooring lines
- To understand the concepts of vortex induced vibration
- To evaluate the problems in designing of risers and mooring lines



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