RC : 1529751

Elvees Engineering Limited

Power and Energy Services | Building Services | Project Management | Procurement | Training

www.elveesengineering.com

Elvees Engineering Ltd
One-stop technical solutions of choice

Training Brochure

52, Isheri Oshun Road,

Off Jakande Estate, Isolo, Lagos

Tel: +234 - 8032243982, +234 – 8027923854

E-mail: admin@elveesengineering.com

Website: www.elveesengineering.com

Who we are

Elvees Engineering Limited is a diversified energy services and engineering company with major interest in power and construction sectors of economy. We pride in our innovative team who have strong set of global skills in our core business areas of engineering services design, power, renewable energy, procurement, project management, manpower development and project funding.

We are growing a full Engineering, Procurement, Installation and Construction (EPIC) company with full mandate of efficient and quality project delivery beyond our customers' expectations.

As a multi-disciplinary professional engineering firm, we provide a diversity of manpower development and training services to bridge the knowledge gaps in the industry we play. We have sought to pursue this challenge with the use of our ever-expanding knowledge base and our reliance on using the latest methods and technologies that exists in the industries.

We offer an intensive and hands on tool training on the following areas:

- Solar energy system design and installation
- Mini grid and hybrid power system design
- Project management and its tools – Microsoft projects, Primavera
- Mechanical and Electrical engineering services design
- Structural Engineering services design
- Mechanical & Electrical services design and installations
- LV Panel design and construction
- Use of engineering design softwares
  - AutoCAD
  - Revit MEP
  - E-Tap
  - PDMS (Plant Design Management System)
  - Orion

Our Vision

To be the reliable one-stop energy and engineering solutions provider of choice

Our Mission

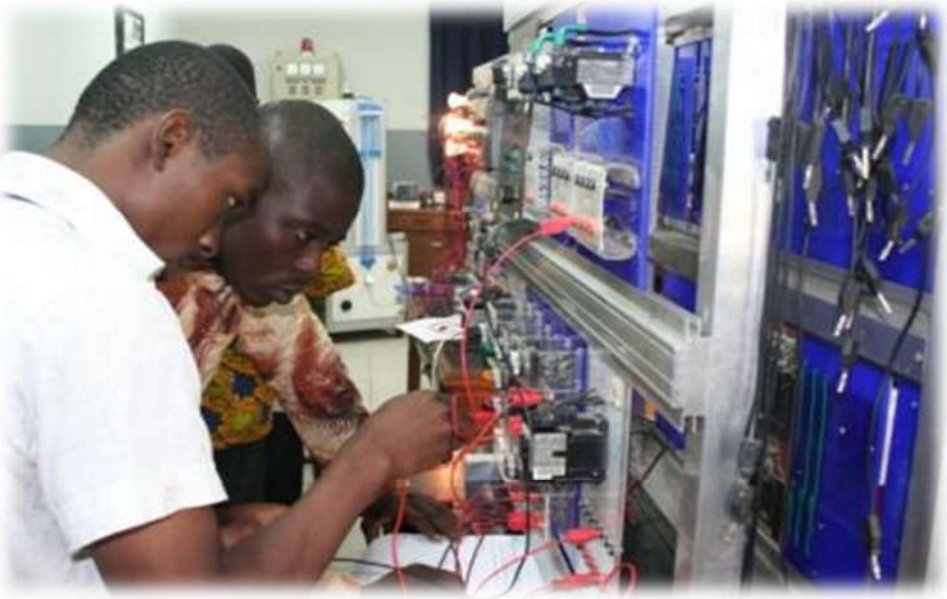
To fervently provide sustainable energy and engineering solutions that exceed stakeholders' expectation on all metrics.

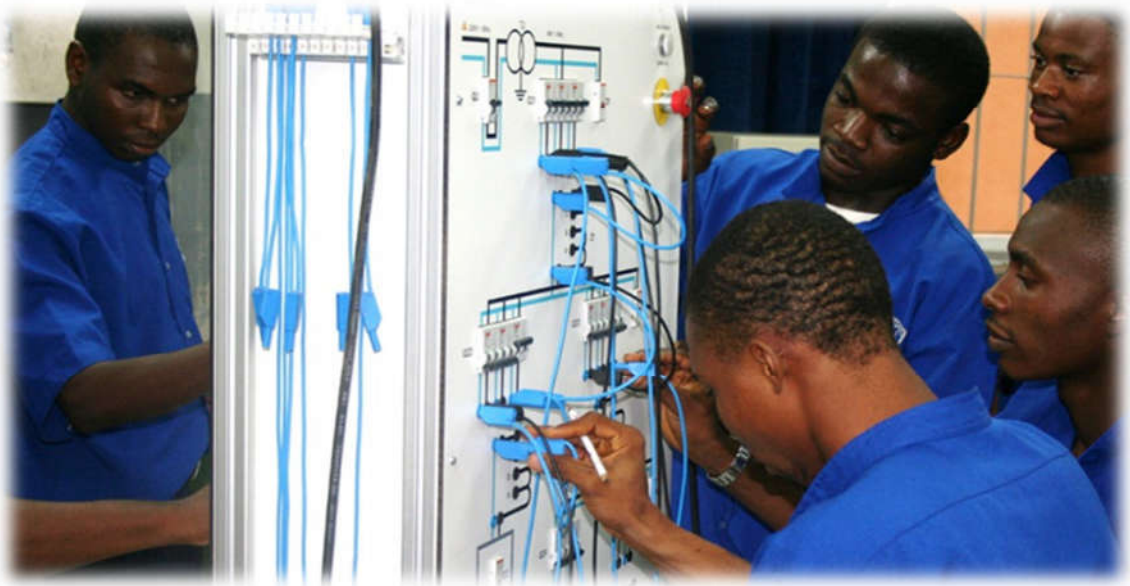
Our Core Values

Integrity + Quality + Safety + Customer Satisfaction

www.elveesengineering.com
+234 - 8032243982, +234 - 8027923854

Manpower Dev. & Training Facilities





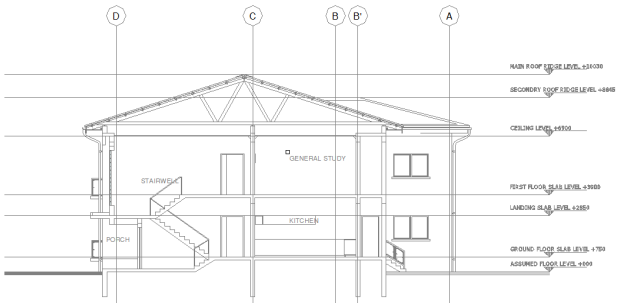
www.elveesengineering.com
+234 - 8032243982, +234 - 8027923854

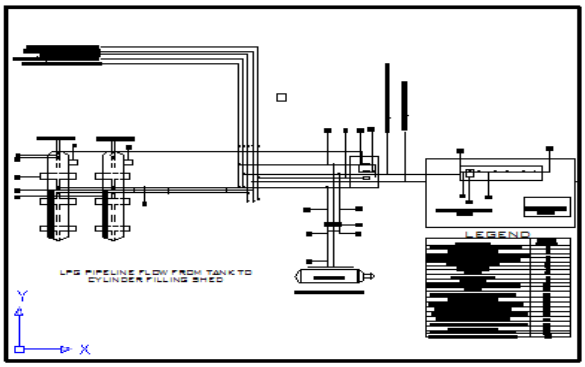
TRAINING PROGRAM/COURSES

1. AUTOCAD 2D & 3D

Software: Autodesk AutoCad 2014 & 2016
Duration: 5 Days (6Hrs daily)

AutoCAD is a Computer-Aided Design (CAD) software built by Autodesk Incorporation and used for engineering design/drafting. Its application can be found in virtually all the engineering disciplines.





AutoCAD 2D & 3D equip participants with in-depth skills to use drawing tools and features in engineering design, drafting and detailing of drawings to standard. Upon completion, participants will be able to navigate the interface of AutoCAD using all the built in features to produce impressive and accurate drawings to precision and details for site use.

With the aid of practical hands-on exercises, students will explore how to create 2D & 3D drawings in the best interactive learning environment under the guidance of a certified trainer. Students who complete this course will have sufficient knowledge to generate 2D & 3D Models and can be competent to work as a CAD Drafter/Design Engineer in any firm.

Elvees Engineering Ltd

AutoCAD 2D &3D

Course Contents

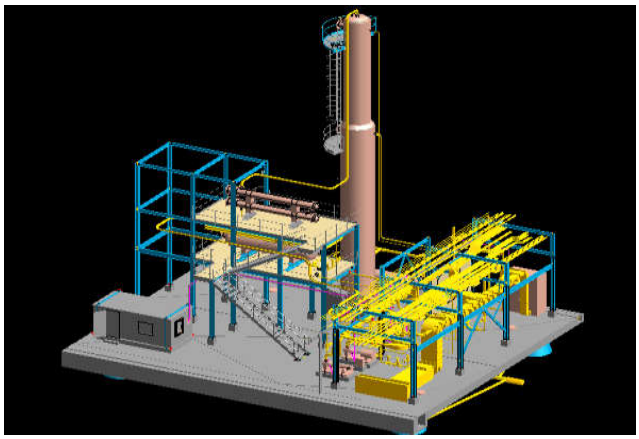
- Introduction to AutoCAD 2D
- Drafting Settings
- 2D Drawing Commands
- Sketch Modify Commands, Modifying Object Properties
- Layer Management
- Detail Dimensioning of Entities.
- Productivity Tools in 2D Drafting
- Working with Dynamic Blocks, Constraints and Parameters
- Working with External References, AutoCAD Design Center
- Plotting styles and Setting printers

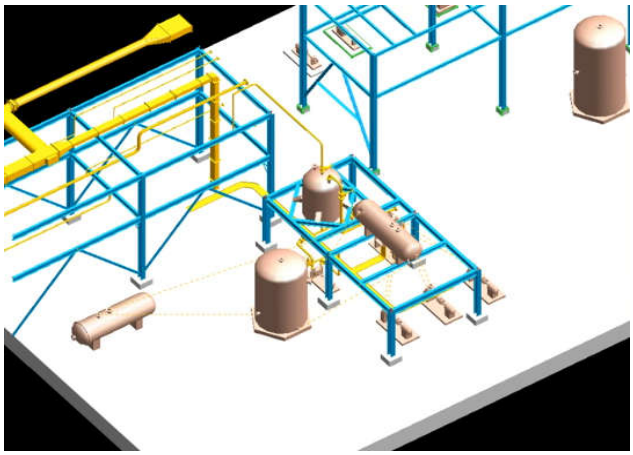
- Learn 3D Modeling
- Viewpoint
- View ports
- UCS
- 3D Coordinate System
- UCS, Wire Frame
- Surface & Solid Modeling
- Using 3D Surface Primitive
- Shading the Model
- Slice/section
- Union/Subtract
- Interfere/intersect
- Solid Model Editing
- Advantage of Solid Modelling
- Using 3D Solid primitives
- Rendering Techniques
- About Rendering engine
- Anti-Aliasing
- Rendering in view point
- Rendering to file
- Analyzing the mode

2. PDMS (Plant Design Management System)

Software: Aveva PDMS 12.0
Duration: 8 Days (6Hrs daily)

This course intends to train students in the use of Plant Design Management System (PDMS) for modeling of industrial plants. It has wide industrial applications ranging from manufacturing plant design, Oil & Gas (Tank farms, refineries, FPSO, LPG plants), power plants design to Waste treatment plant design. PDMS users range from small engineering contractors to many of the largest multinational process and power companies.





PDMS enables teams of designers from a range of different disciplines to work concurrently to develop a complete digital model of a process or power plant. Each discipline works within its own specialist 3D environment, but can still view all of the design work taking place around them.

Elvees Engineering Ltd

PDMS

Course Contents

EQUIPMENT & PIPING MODULE:

- Introduction to the Design module
- Controlling the display
- The Equipment application
- Hierarchy and naming conventions
- Creating and editing equipment and primitives
- The Piping application
- Creating and editing piping systems and components
- Data consistency checking
- Clash detection
- Isometric generation

STRUCTURAL MODULE

- Introduction to the Design module
- Controlling the display
- The Structural Beams & Columns application
- The Panels and Plates application
- Creating and editing structural elements.

DRAFT MODULE

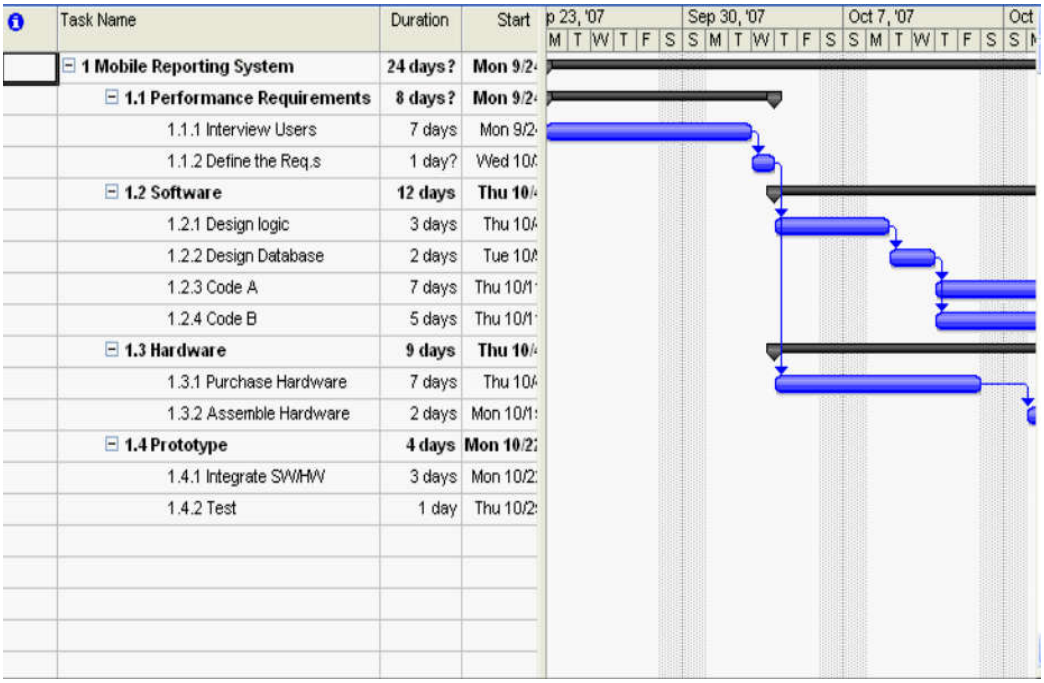
- Hierarchy and naming conventions
- Creating Drawings, Sheets and Views
- Dimensioning Application -annotation
- Labeling Application
- Section Planes
- 2D Drafting
- Automatic Drawing Production

3. Microsoft Project (Project Management tool)

Software: Microsoft Project
Duration: 3 Days (6Hrs daily)

Microsoft Project is a project management software product, developed and sold by Microsoft. It is designed to assist project managers in developing a plan, assigning resources to tasks, tracking progress, managing the budget, and analyzing workloads.

This course is designed to teach students how to apply MS Project in planning and managing various sizes of projects. Optimal tracking and resources allocation for different types of projects should be covered. Our training & implementation approach is based on Project Management Institute (PMI) standards and PM best practices.



Elvees Engineering Ltd

MICROSOFT PROJECT

Course Contents

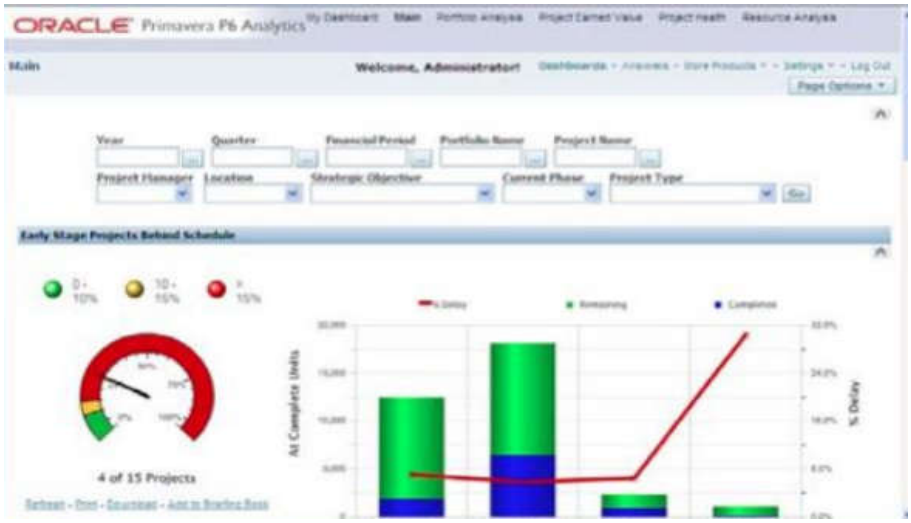
- Introduction
- Initiation
- Planning
- Execution
- Controlling
- Closure
- Introduction to Microsoft Project
- Starting new project file
- Calendar definition
- Task definition
- Scheduling tasks
- PERT Analysis
- Work Breakdown Structure
- Constraints
- Defining Resource
- Assigning Resources to tasks
- Analyzing Resources
- Distribution
- Resolving Over Allocation
- Optimizing Project Plan
- Tracking Progress
- Performance Measurement
- Multiple Projects
- Printing Views and Reports
- Customizing standard Report

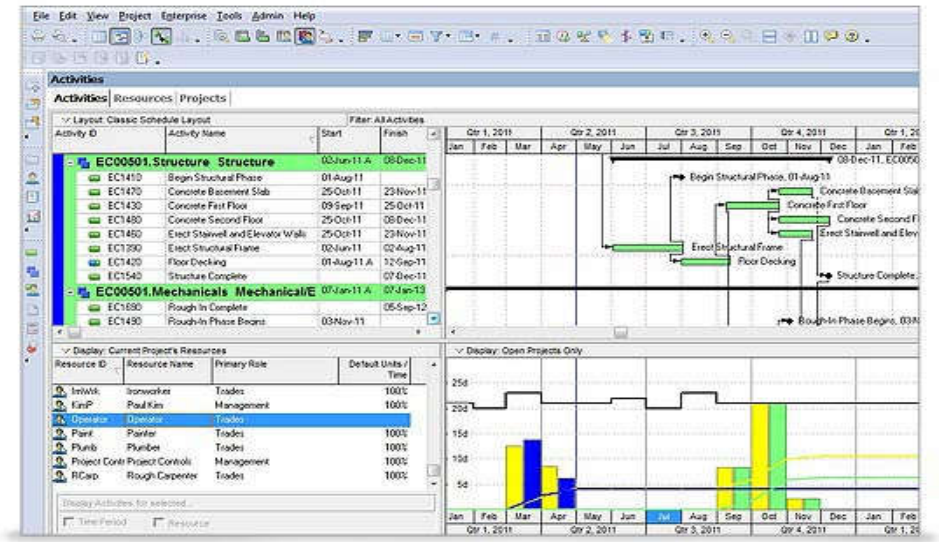
4. Primavera (Project Management tool)

Software: Oracle Primavera P6
Duration: 4 Days (6Hrs daily)

Primavera is an enterprise project portfolio management software. It includes project management, product management, collaboration and control capabilities, and integrates with other enterprise software such as Oracle and SAP's ERP systems. Primavera was launched in 1983 by Primavera Systems Inc., which was acquired by Oracle Corporation in 2008.

Oracle Primavera services project-intensive industries such as engineering and construction, aerospace and defense, utilities, oil and gas, chemicals, industrial manufacturing, automotive, financial services, communications, travel and transportation, healthcare, and government. No wonder professionals with Oracle Primavera application experience always excel in their duties and often have a promising career growth and opportunities.





Elvees Engineering Ltd

PRIMAVERA

Course Content

Navigation
- Primavera P6 overview
- introduction to Primavera P6
- Logging In
- Dashboards, Portfolios, Projects and Resources Tabs
- Project Workspaces
- Navigating the Project Pages

Project Structures
- Enterprise Project Structure (EPS)
- Modifying the EPS
- Organizational Breakdown Structure (OBS)

Project Creation
- Project creation overview
- Project Calendars
- Working with calendars
- Creating a new project

The Work Breakdown Structure
- Work Breakdown Structure (WBS) overview
- Defining a WBS
- Modifying the WBS

Adding Activities
- Activities overview
- Describing an Activity and its attributes
- Working with Activity Types
- Adding Activities
- Understanding Duration Types
- Assigning Activity Codes

More…

5. Project Management Professionals (PMP) Training

(PMBOK 5th and 6th Edition/ PMI standard training)
Duration: 5 Days (6Hrs daily)

Ability of an individual to demonstrate the best practices in project management is essential in this fast changing world. This course equips its participants with the skills; knowledge & leadership techniques needed to manage projects and help organization achieve its strategic goals. Our training focus on the generally accepted practices of project management recognized by the Project Management Institute, Inc. (PMI). This course offers a job-related approach to successful project management across application areas and industries.

The training is for practicing and intended project managers and professionals who intends to expand their knowledge on project management and write PMP certification examinations.

Elvees Engineering Ltd

PMP

Course Content

- Project Management Framework
- Project Lifecycle and organization
- Project management processes
  - Initiating process group
  - Planning Process group
  - Executing Process group
  - Monitoring and Controlling
  - Closing
- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resources Management
- Project Communication Management
- Project Risk Management
- Project Procurement Management

6. Solar Energy System Design and Installations Training

(Design and practical oriented class)
Duration: 6 Days (6Hrs daily)

Solar power is the conversion of energy from sunlight into electricity, either directly using photovoltaics (PV), or indirectly using concentrated solar power. Concentrated solar power systems use lenses or mirrors and tracking systems to focus a large area of sunlight into a small beam. Photovoltaic cells convert light into an electric current using the photovoltaic effect. Various applications of solar system enlisted above are covered in this programme.

- Building integrated PV
- Charge controller
- Storage system
- Inverter
- Hybrid building integrated PV system
- Stand-Alone building integrated PV system
- Solar street light
- Solar Borehole
- Solar traffic light

Our solar energy/power design and installation course is practical-oriented, participants will be engaged in practical installations of solar panels as well as its design.

Elvees Engineering Ltd

SOLAR SYSTEM DESIGN AND INSTALLATIONS

Course Content

- Introduction to solar energy and basic terminologies.
- Energy management and conservation awareness.
- Types of solar PV system.
- Solar energy applications.
- Basic principle of load analysis and estimation.
- solar panel sizing
- Charge controller selection
- Battery sizing
- Design and drafting
- Spec. identification
- Component testing
- Installations and maintenance.

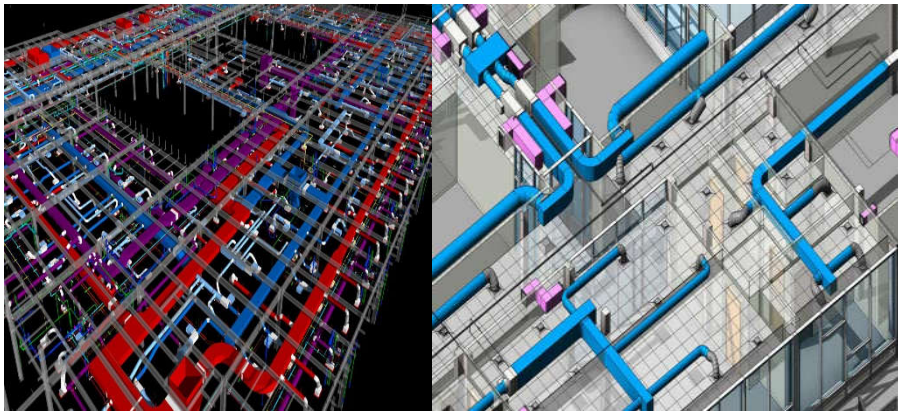
7. Heating, Ventilation and Air-conditioning (HVAC) Design and drafting

Software: Revit MEP (Mechanical, Electrical and Plumbing) software - Prerequisite

Duration: 8 Days (6Hrs daily)

Heating, ventilation and air conditioning (**HVAC**) is the technology of indoor and vehicular environmental comfort. Its goal is to provide thermal comfort and acceptable indoor air quality. HVAC system design is a branch of mechanical engineering, based on the principles of thermodynamics, fluid mechanics, and heat transfer.

HVAC is an important part of residential structures such as single family homes, apartment buildings, hotels and senior living facilities, medium to large industrial and office buildings such as skyscrapers and hospitals, malls, onboard vessels, and in marine environments, where safe and healthy building conditions are regulated with respect to temperature and humidity, using fresh air from outdoors.



Elvees Engineering Ltd

HVAC

Course Content

- Fundamentals – Heat transfer basics, standard and codes, types of ACs, pumps and fans.
- Full analysis of load/load calculations
- Ventilation System & Duct design
- Air distribution system designing
- Sizing of pipes & pumps
- HVAC equipment selections as per ISHRAE, ASHRAE and SMACNA standards
- HVAC designing & drafting software
- Estimation and costing of project.

8. Electrical Services Design and Drafting

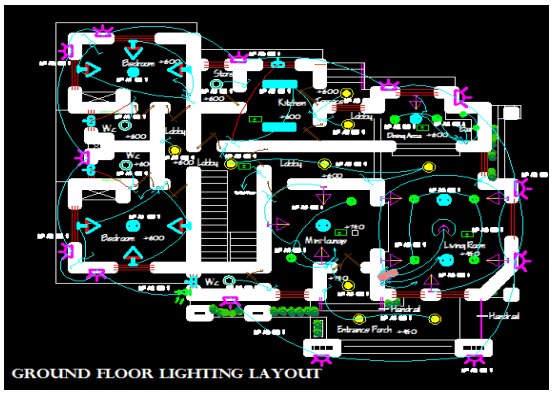
Software: AutoCAD/MEP - Prerequisite
Duration: 6 Days (6Hrs daily)

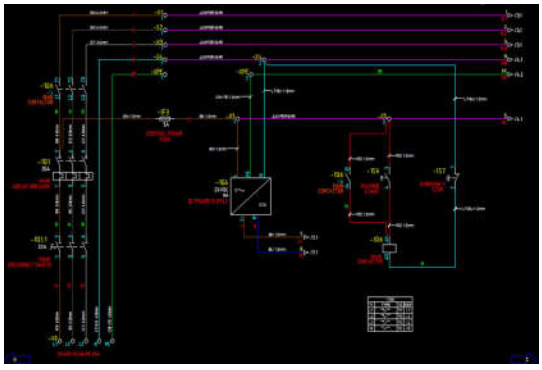
Electrical services design entails planning, creating, testing, or supervising the development and installation of electrical equipment, including lighting equipment, power systems, power distribution, security systems, fire and life safety systems, electronic components, voice and data communications infrastructure.

Electrical services design deals with the application of electrical engineering principles and computer–aided design (CAD) software to generate drawings used in electrical installations for both medium and high rise buildings and systems.

In this Program, you will learn how to carry out:

- Piping/plumbing services design & analysis from fundamentals.
- Wiring and Cable management systems.
- Lighting types, controls, calculations and design.
- Power factor applications.
- Earthing Design calculations & Lightning protection
- Transformers and Generator sizing & selections
- Low voltage & Medium voltage panels sizing and selection
- Integration of hybrid of different power sources in electrical design
- Networking - Communication systems
- Security surveillance systems (CCTV & Access control systems)
- Fire alarm systems & Access control systems
- Design of the electrical services with the use of CAD software.





Elvees Engineering Ltd

ELECTRICAL DESIGN & DRAFTING

Course Content

- Introduction to local and international codes, standards, (IEE, IEC & NESIS) specifications and terms applied in electrical services design.
- Introduction to basic electrical engineering principles, terms and components.
- Electrical component(s) and equivalent symbol(s) representation
- Cable support and duct systems
- Emergency lighting design.
- Load estimation/DB load schedule calculations.
- Generator and photovoltaic power generation sizing and selection
- Transformer sizing and selection
- Power distribution in high rise buildings
- Protective devices types, sizing and selection.
- Lightning systems and controls
- Power distribution equipment
- Power factor correction
- Security systems/CCTV
- Tunnel electrical works
- Public address system design
- Uninterruptible power supply
- Surge Protection/Lightning earthing system
- Estimation and costing of project.

www.elveesengineering.com
+234 - 8032243982, +234 - 8027923854

9. Mechanical Design and Drafting

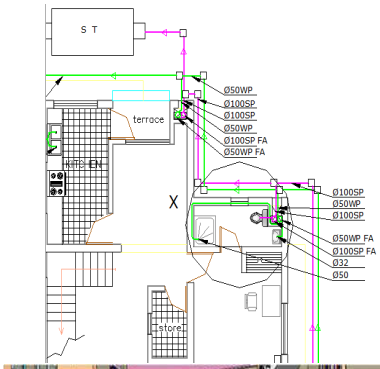
Software: AutoCad/Revit MEP - Prerequisite
Duration: 6 Days (6Hrs daily)

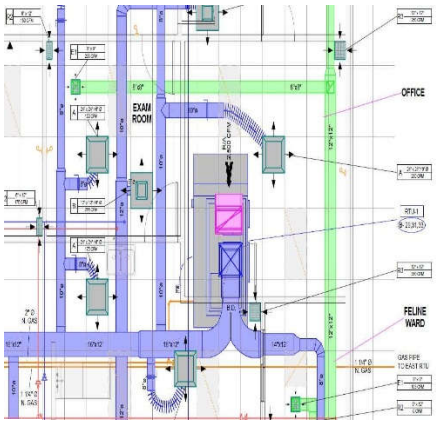
Mechanical services design entails planning, creating, testing, or supervising the development and installation of mechanical equipment, including plumbing/piping system, fire protection and life safety system, indoor travels (lifts, escalators, conveyor belts), pumps, Air conditioning and Heating, water distribution and sewage disposal system.

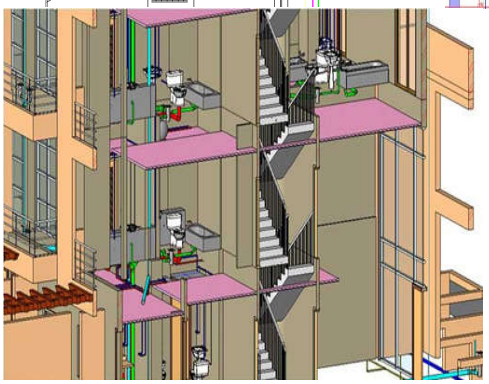
Mechanical services design deals with the application of various mechanical engineering principles and computer–aided design (CAD) software to generate drawings used in mechanical installations for both medium and high rise buildings and plants.

In this Program, you will learn how to carry out:

- Air Conditioning & Heating system design
- Mechanical Ventilation System design
- Piping for Hot water, cold water and waste disposal systems.
- Size and select boilers, heater etc.
- Gas Supply & Distribution System design
- Fire Protection / Fighting System design
- Swimming Pool / Decorative Fountain Services design
- Sizing and design of sewage disposal (septic and soak-away pits) system
- Water requirement calculations and sizing of water tanks
- Lift types, sizing and design
- Pump sizing and selection
- Mini plant piping design
- Drafting of mechanical services with the use of CAD software.







Elvees Engineering Ltd

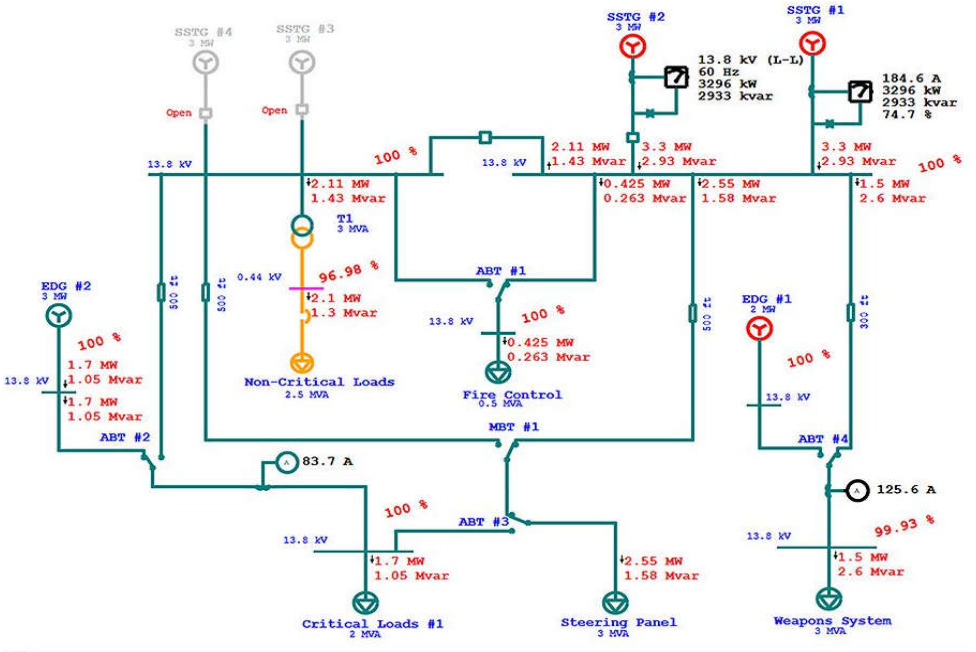
MECHANICAL DESIGN & DRAFTING

Course Content

- Introduction to local and international codes, standards, specifications and terms applied in mechanical services design.
- Introduction to basic mechanical engineering principles, terms and components.
- Mechanical component(s) and equivalent symbol(s) representation
- Mechanical equipment sizing and selections.
- Contents of the learning outcome of the program enumerated above.
- Estimation and costing of project.

10. ETAP

Software: ETAP
Duration: 5 Days (6Hrs daily)



ETAP (Electrical Transients and Analysis Program) is a very good program for Load flow analysis, Short Circuit analysis, motor starting, OPF, transient stability analysis, generator start-up, parameter estimation, cable sizing, transformer tap optimization, reliability assessment, transmission line constant calculations, harmonic analysis, protection coordination, dc load flow, battery discharge and sizing, earth grid design, cable pulling, and GIS map integration. It is the leading software used by Electrical engineers for power system analysis ranging from generation, transmission to Distribution powers systems.

ETAP skilled Engineers are indispensable in power sector.

At the end of the course, participants should be able to:

- Build system of single line diagrams using IEC standards and ANSI standards.
- Interpret and analyze Electrical study reports such as Load Flow report, Short Circuit report, transient stability report, reliability assement report etc.
- Size protective devices and other system sizing; understand the principle of electrical protection and Transient Stability.
- Read and interpret TCC curves, Understand Arc Flash analysis, and recent IEEE and IEC regulations.

Elvees Engineering Ltd

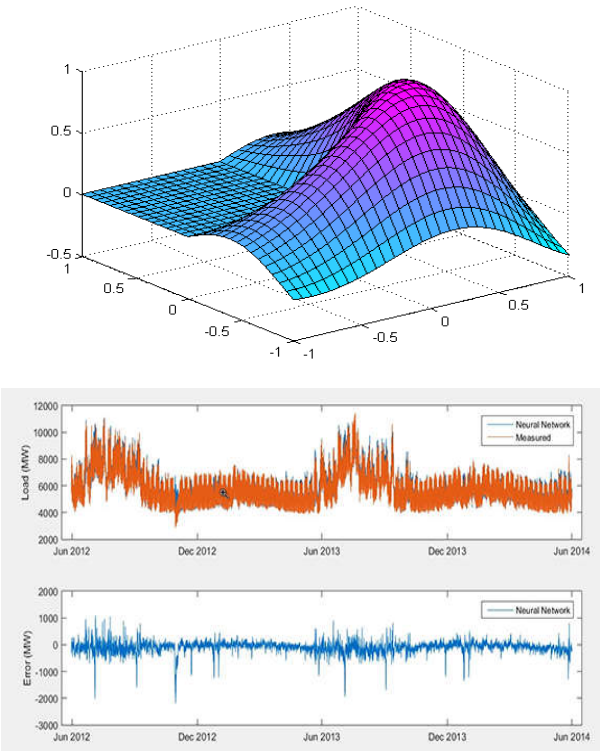
ETAP Software

Course Content

- Development of Single Line Diagrams, Libraries, Project Data Management, Cable Sizing, Templates
- Load Flow Analysis
- Short Circuit (IEC and ANSI)
- Motor Acceleration
- Earth grid design
- Battery discharge and sizing
- Transient Stability
- Protective Device Coordination and Selectivity
- Ground Grid Systems
- Underground Raceway Systems
- Arc Flash Analysis
- Other modules based on attendees' request(s)

11. MATLAB

Software: MATLAB
Duration: 5 Days (6Hrs daily)



MATLAB (MATrix LABoratory) is a tool for numerical computation and visualization. The basic data element is a matrix.

It is a high level programming language developed by MathWorks, MATLAB and allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages, including C, C++, Java, Fortran and Python.

Although MAT LAB is intended primarily for numerical computing, an optional toolbox uses the MuPAD symbolic engine, allowing access to symbolic computing abilities. An additional package, Simulink, adds graphical multi-domain simulation and model-based design for dynamic and embedded systems.

Elvees Engineering Ltd

MATLAB

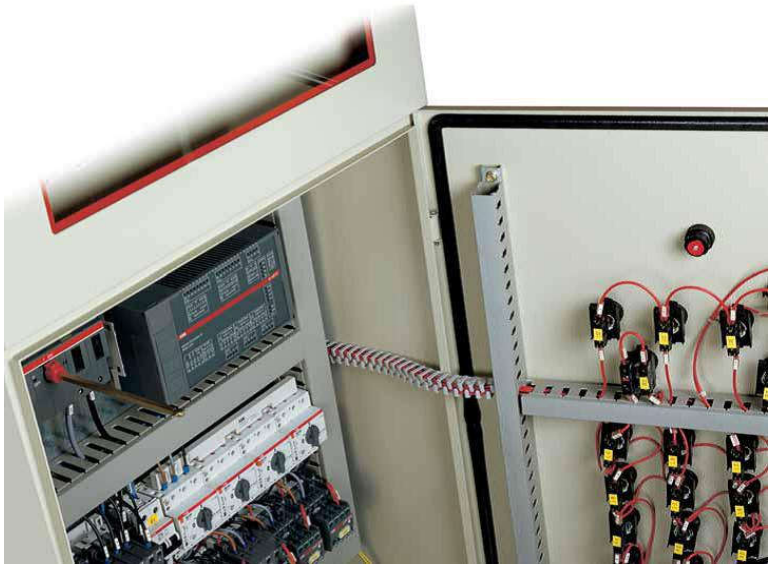
Course Content

- Working with the MATLAB user interface
- Entering commands and creating variables
- Performing analysis on vectors and matrices.
- Visualizing vector and matrix data
- Working with data files
- Working with data types
- Automating commands with scripts
- Writing programs with logic and flow control
- Writing functions

12. Design and Construction of MV Panels

Software: Autocad
Duration: 7 Days (6Hrs daily)

MV panels are obviously critical components in electrical distribution systems and their operation significantly affects the overall operation of the system. This course intends to cover the design, application, installation, maintenance and testing issues relating to low and medium voltage switchgear and circuit breakers.



Course Objectives

Participants will learn about the following:

- Selection of suitable type and rating of circuit breakers and switchgear.
- Basics of operation of switchgear. Switchgear components (CTs, VTs, relays, Contactors, ammeters, voltmeters, cable terminations etc.)
- Safe operational policies including safety rules and safety documents.
- Diagnostic tools and test equipment for switchgears.
- Safe maintenance policies including safe working in switch rooms, indoor and outdoor substation

www.elveesengineering.com
+234 - 8032243982, +234 - 8027923854

Elvees Engineering Ltd

MV Panel Design & Construction

Course Content

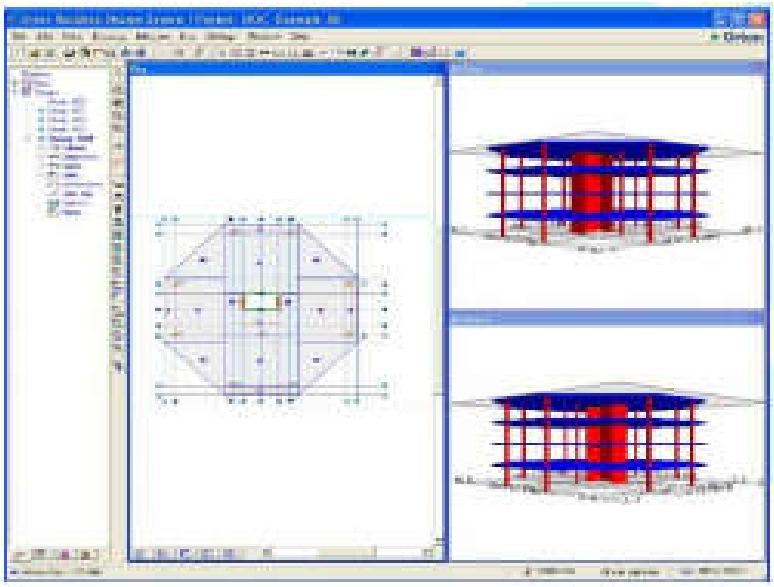
- Introduction to LV & HV Switchgear.
- Breaking of AC currents
- Transient restrike recovery voltage (TRRV). Surge arresters.
- Metal clad & metal enclosed switchboards.
- LV forms of separation.
- Load flow studies (rated current).
- Calculation of fault currents (simplified methods, PU, MVA & Symmetrical components). Breaking & Making Capacities.
- Different types of LV Circuit breakers/contactors (ratings &tripping units/curves).
- Sizing of motor starters (DOL, Star/Delta, Auto transformer & soft starters).
- Fuse sizing for distribution transformers & motors.
- Type 1 & type 2 co-ordination for motor starters. Dimensioning of LV switchboards (MCC & power centers). Different types of HV Circuit breakers (Oil, Vacuum, Gas & Air type)
- Merits & demerits of each type of HV breakers. Different de-rating factors (temperature, altitude, etc ...).
- Breaking capacity de-ratings according to IEC/ANSI C37.010.
- Bus bar sizing/cross sectional area/current density & skin effect.
- Specifications for switchboards.
- Overview of protection & measuring units. Different types electrical diagrams.
- Panel scheduling.
- Type & routine tests on switchgear.
- Course Evaluation & Summary

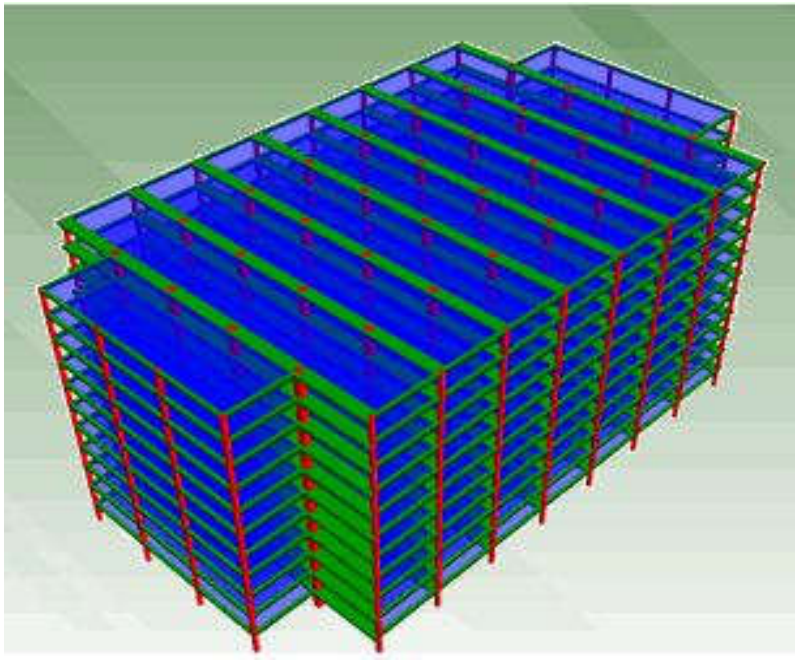
13. Structural Design with Orion Software

Software: Orion
Duration: 6 Days (6Hrs daily)

Orion software is a reinforced concrete structural software with analysis, design and drawings bundled into one integrated system. Orion Structural Software is very good for multi-storey building design as the floors are repetitive and modelling of one floor can be repeated to many storeys.

Orion Structural Software is an ideal structural software for those involved extensively in the design of reinforced Concrete Building Structures. It has 2D/3D modelling environment from which automatic analysis, design and drafting is provided for the engineer.





Elvees Engineering Limited

Orion Software

Course Content

- Introduction to Orion
- General Arrangement
- Over View Of The User Interface
- Getting Started-Project Parameters And Settings
- Creating Axis
- Creating Columns (Rectangular And Circular)
- Creating Shear Wall
- Creating Beams
- Creating Circular Beams
- Creating Slabs
- Creating Slab Strip
- Slab Design
- Slab Sectioning
- Using Table To Edit Multiple Members
- Applying Wall Load
- Pre Analysis
- Analysis
- Post Analysis
- Beam Reinforcement Design
- Interactive Beam Design
- Creating Beam Detail Drawing
- Column And Wall Reinforcement Design
- Interactive Column Design
- Creating Column Detail Drawing
- Foundation Design
- Foundation Detailing
- Generating Calculation Sheet
- Exporting To Autocad
- Course Review And Exercise

CONTACT US

For Further inquiries about our services and training programs, Contact us at:

Corporate Head Office

52 Isheri Oshun Road,

Off Jakande Estate,

Isolo, Lagos

Nigeria.

www.elveesengineering.com

admin@elveesengineering.com

Tel: +234 – 8032243982

+234 – 8027923854