BISMARCK

TECHNOLOGY & LEARNING INSTITUTION LIMITED

Every Life, Every Moment, Every Day. A New Discovery...

IT TECHNOLOGIES COURSES

(SECTION 3)

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Every Life, Every Moment, Every Day. A New Discovery...

E-ACCOUNTING COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is E-Accounting?

E-Accounting is the digital form of carrying out regular business accounting operations. E-Accounting can be carried out either offline or online with software applications known as **Accounting Softwares.**

Accounting Softwares are specialized application software developed to carry out regular accounting operations digitally such as keeping records, processing of accounting transactions such as accounts payable, accounts receivable, payroll, sales, journal, general ledger, trial balance, etc.

Advantages of E-Accounting

Some of the advantages include:

1. Availability of numerous software applications to choose from depending on your accounting needs.

2. It provides an easy way of accessing financial records on the go.

3. Accounting information is more private and secure with the use of back up systems, encryption, and cloud computing.

4. An easy way of sharing financial records and transactions among accountants and managers in workplaces.

5. Accounting accuracy and visual presentation are improved with E-Accounting.

6. E-Accounting is more reliable than the paperwork method.

Types of Accounting Software

The various types of Accounting Software are grouped under these categories:

1. Spreadsheets: Spreadsheets are used by individuals, entrepreneurs and small businesses for bookkeeping and small accounting operations, such as Microsoft Excel, Google Sheets, OpenOffice, etc.

2. Commercial Accounting Software: Commercial accounting software are for small and medium scale business accounting operations such as QuickBooks, Sage, Peachtree, Turbo-CASH or FreshBooks.

3. Enterprise Accounting Software: Enterprise software is used by Larger and Corporate organizations with lots of complex business operations such as Oracle, SAP or Microsoft Dynamics GP.

4. Custom Accounting Software: Custom Accounting Softwares is created on the basis of demand. As the business grows, there may need to develop specialized software that handles certain accounting operations.

5. Microsoft Excel is a spreadsheet application software developed by **Microsoft Inc.** compatible with Windows, macOS, Android, and iOS, used to record, store numeric data, make charts, tables, cells, calculations, graphing tools, pivot tables, and macro programming and can be customized to your preference.

6. Quickbooks is an accounting software application developed, marketed and maintained by **Intuit.** QuickBooks package is targeted mainly towards small and medium-sized businesses and it includes cloud-based versions that record business payments, pay bills, payroll functions, etc.

7. SAP is a multi-purpose business application software that includes operations such as Accounting, Management, Sales, Customer Relations, etc.

Career Opportunities in E-Accounting

An increasing number of companies are bringing up the need for E-Accounting professionals. If you are in the look for career opportunities that are available in this field, they are large, and some of them are listed below.

1. You get a lot of job opportunities with E-Accounting.
2. You can become an E-Accounting specialist in any organization.
3. After taking this certification course of the E-Accounting Module, you can become an E-Accounting Expert.
4. You can become an E-Accounting Trainer.
5. You can become a Lead Accounting Personnel commanding high pay.

In the Full course, you will learn everything you need to know about **E-Accounting with Certificate** to showcase your knowledge.

E-Accounting Course Outline

Microsoft Excel Basics:

1. Getting Started with Excel
2. Excel Creating and Opening Workbooks
3. Excel Saving and Sharing Workbooks
4. Excel Cell Basics
5. Excel Modifying Columns, Rows, and Cells
6. Excel Formatting Cells
7. Excel Worksheet Basics
8. Excel Page Layout
9. Excel Printing Workbooks

Microsoft Excel Formulas and Functions:

10. Excel Simple Formulas
11. Excel Complex Formulas
12. Excel Relative and Absolute Cell References
13. Excel Functions

Working with Data in Microsoft Excel:

14. Excel Freezing Panes and View Options
15. Excel Sorting Data
16. Excel Filtering Data
17. Excel Groups and Subtotals
18. Excel Tables
19. Excel Charts
20. Excel Sparklines

Doing More with Microsoft Excel:

21. Excel Track Changes and Comments
22. Excel Finalizing and Protecting Workbooks
23. Excel Conditional Formatting
24. Excel Pivot Tables
25. Excel What-If Analysis
26. Customizing the Ribbon in Excel
27. Enabling Touch Mode in Excel

QuickBooks Accounting:

1. QuickBooks Getting Started
2. QuickBooks Using the Homepage
3. QuickBooks Using Centers

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E-AGRICULTURE COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is E-Agriculture?

E-Agriculture is an emerging field that is focused on the improvement of both Agricultural and Rural Development, through improved and advanced information and communication technology processes.

E-Agriculture is basically about the design, development and application of creative and innovative information and communication technologies in the rural sector with its primary focus on Agriculture.

Agriculture is defined as the science or practice of farming which includes cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products.

E-Agriculture is sometimes referred to as ICT in Agriculture. Both are more recent terms in the field of Agriculture and Rural Development practices.

ICT in Agriculture or E-Agriculture Solutions have been created and tested all over the world to help farmers and agriculturists improve their livelihood through increase in agricultural productivity and income by reducing the risks in farming.

E-Agriculture now moves beyond technology. It further increase the implementation of technology with multimedia, internet, knowledge and culture, with the singular goal of improving communication and the learning process across various sectors of agriculture, both locally, regionally and globally. Including facilitation, support of standard and norms, technical support, capacity building, education and extension are all the fundamental concepts of E-Agriculture.

Features and Characteristics of E-Agriculture

Some of the Features of E-Agriculture includes:

1. ICT-Based Solutions: Applications of E-Agriculture in extensive agricultural systems in developed countries are moved towards using sophisticated information technologies to improve the quality and quantity of agricultural products, in other to maximize profits. This is the same with precision agriculture in which farmers are making use of computers and technologies to cut costs, improve yields and protect the environment, information gathering, marketing and sale of agricultural products conducted over electronic networks such as the internet and extranets. On the other hand, many developing farmers' knowledge is improved and updated through grass root level initiatives of using ICTs, e-learning as well as distance education modalities to enhance the knowledge and capacity.

2. Precision Agriculture: In precision agriculture or site-specific farming, farmers use ICT tools and other technologies to obtain more precise information about agricultural resources which allows them to identify, analyze and to manage the spatial and temporal variability of soil and plants for optimum profitability, sustainability, and protection of the environment.

3. E-Commerce in Agriculture: Improved production and high yields due to the involvement of technology in agriculture brings about the need for farmers to look for profitable markets beyond what local communities offer. Electronic Commerce has helped greatly in this area. E-Commerce which is the general exchange of goods and services with the aid of the internet, is having a significant impact on agriculture because, it allows farmers to market and sell their products to anyone in any place with ease. With E-Commerce in agriculture, farmers can now easily meet their customers with little or no cost.

4. Exchange of Information: E-Agriculture offers an improved and efficient medium of information exchange and communication for the benefits of rural communities farm households and the rural service providers that are involved in the provision of agricultural, financial and communication services.

Benefits of E-Agriculture

There are Many Advantages of I.C.T In Agriculture or E-Agriculture, some of them are:

1. E-Agriculture reduce the cost and time spent by the farmers in general.

2. Modern machines and computer devices can automate the efforts of the farmers.

3. E-Agriculture aids in facilitating easy transportation of farm goods.

4. It brings about the application of synthetic fertilizers.

5. It promotes better marketing and exposure of the product.

6. It facilitates online trading and eCommerce.

7. It reduces the impact on the ecosystem.

8. It offers improved way of communicating between farmers and expert.

9. It offers a way of providing and sharing technical advice to farmers with communication tools such as internet.

10. It saves cost, time and energy.

In the Full Course, you will learn everything you need to know about **E-Agriculture** with **Certificate** to showcase your knowledge and competence.

E-Agriculture Course Outline

1. Introduction
E-Agriculture - Agriculture and information and communication technology ICT)
E-Agriculture - What is E-Agriculture?
E-Agriculture - The Case for E-Agriculture
E-Agriculture - Potential benefits of E-Agriculture across value chains
E-Agriculture - The Need for a National E-Agriculture Strategy
E-Agriculture - The Need for a National approach
E-Agriculture - Determining the appropriate E-agriculture Approach

2. Establishing a National E-Agriculture Vision
E-Agriculture - Framework for a National E-Agriculture vision
E-Agriculture - Managing the vision development process
E-Agriculture - Stakeholder Engagement Approach
E-Agriculture - Strategic context for E-Agriculture
E-Agriculture - Learning from E-Agriculture trends and practices
E-Agriculture - Drafting an initial vision
E-Agriculture - Identifying the required E-Agriculture components
E-Agriculture - Gathering information on the current E-Agriculture environment
E-Agriculture - Assessing opportunities, gaps, risks and barriers
E-Agriculture - Refining the vision and develop strategic recommendations.

3. Developing a National E-Agriculture Action Plan
E-Agriculture - Need for developing a National E-agriculture action plan
E-Agriculture - Developing e-agriculture outputs and activities
E-Agriculture - Developing an integrated action plan
E-Agriculture - Defining implementation phases

4. Monitoring and Evaluation
E-Agriculture - Developing an E-Agriculture monitoring and evaluation framework
E-Agriculture - Defining indicators for E-Agriculture
E-Agriculture - Defining baseline and target measures for indicators
E-Agriculture - Defining supporting governance and processes

5. Video Lectures

6. Exams and Certification

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E-COMMERCE COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is E-Commerce?

E-Commerce involves the buying and selling of goods and services through electronic means. It can also be defined as the electronic method of trading with the aid of network connections.

E-Commerce serves as means of revenue generation to all store owners. It serve as a universal market place for Internet traders. It is the most flexible way to trade. As shopping can just be done on phones, tablets or laptops with the help of internet.

E-commerce is an online global market for all. It allows one to carry out businesses without being limited to location and distance. it is ideal for chains of product as it can keep statistics accurately. E-commerce is the greatest platform for trading, even though the prevailing cyber crimes tends to be an issue as individuals sometimes have to question credibility of sellers they meet on website interface. However E-commerce is still most preferrable with lots of benefits such as higher profitability, ease of trade, order management, tracking system etc. It serve as a source of self-employment and create job opportunities for all.

Advantages of E-Commerce

The benefits of ecommerce is endless, some of which are:

1. Global Reach:– You are usually limited or confined to a corner or street with a physical shop or store. With online store, your audience is global, people from USA, UK, JAPAN, South Africa and the rest of the world automatically becomes your potential reach. And you'll never need to open another physical location, just a single store serves the whole world.

2. Always Open:– You are not limited in terms of when to sell. You can sell to anyone, anytime via your e-commerce website or your mobile site available 24/7.

3. Convenience:– E-commerce aids convenient digital shopping, where we can all shop at our convenience, enjoying the luxury of comfort.

4. Cost Savings:– You don't need to rent a physical store or shop, no need to hire staff to pay, cost of running your store is extremely low.

5. Automated Inventory Management:– Inventory management is easily automated with E-commerce tools, there by saving ecommerce businesses billions of dollars in inventory and operating costs.

6. Laser Targeted Marketing:– With E-Commerce, targeting is easy and convenient. Online merchants can collect necessary consumer data to ensure they target the right people for their products.

7. Higher Profitability:– Because of the lower operating costs and global reach advantage, you are sure to have high return on investment with E-commerce.

8. E-commerce reduces paper work.

9. E-commerce increases organization's productivity.

10. It makes businesses process simple, faster and efficient trade operations.

11. It helps organizations to provide better customer services with better tracking tools and interactive tools.

Types of E-Commerce

The major types of e-commerce are:

1. Business-to-Business(B2B)
2. Business-to-Consumer (B2C)
3. Business-to-Government(B2G)
4. Consumer-to-Consumer (C2C)

1. Business-to-Business(B2B): B2B e-commerce is trade between companies. This is the type of e-commerce that deals with relationships between and among businesses.

2. Business-to-Consumer (B2C): Business-to-Consumer e-commerce, or commerce between companies and consumers, involves purchase and delivery to consumers.

3. Business-to-Government(B2G): The involves trade between businesses and the government mostly for confidential and security reasons.

4. Consumer-to-Consumer (C2C): Consumer-to-consumer e-commerce or C2C is simply commerce between private individuals or consumers.

Advantages of Studying E-Commerce

Some of the advantages of studying e-commerce include:

1. It increases one's knowledge on electronic trading.
2. It helps one to be efficient on Internet Commerce.
3. It serves as source of self-employment as one can be an online store owner.
4. It helps one to be self reliant or entrepreneurial.
5. It increases one's understanding about online trading and transactions.
6. With E-Commerce, information are easily collected, orders are easily managed, delivery easily tracked and errors can easily be traced compare to offline commerce.
7. It provides job opportunity, as there are lots of job offers in the E-Commerce Sector.

Some few limitations of E-Commerce can be:

1. Presence of fraudulent activities,
2. Online scams and trust issues,
3. Internet accessibility issues in countries
with low internet speed.

The advantages and benefits of E-Commerce outweighs the limitations such as:

1. Flexibility,
2. Energy Saving,
3. Time Saving,
4. Transport,
5. High ROI,
6. Convenience,
7. Employment Opportunities,
8. Ease of Trade and Transactions.
9. Easy Management of Orders and Delivery Tracking.

In the Full Course, you will learn everything you need to know about **E-Commerce** with **Certificate** to showcase your knowledge and competence.

E-Commerce Course Outline

SE-Commerce - Basic Definitions of E-Commerce
E-Commerce - Types of E-Commerce
E-Commerce - Benefits of E-Commerce
E-Commerce - Key Ideas In E-Commerce
E-Commerce - Concepts of E-Business
E-Commerce - Facilities that Support E-Commerce and E-Business Systems
E-Commerce - Issues and Problems that Affect E-Commerce and E-Business Development
E-Commerce - Introduction and Techniques for Web Design
E-Commerce - Methodologies for Developing E-Commerce Websites
E-Commerce - Managing Websites for E-commerce
E-Commerce - Creating and Maintaining a Successful Web Presence
E-Commerce - Catalog Development
E-Commerce - Processing Orders in E-Commerce
E-Commerce - Online Shop
E-Commerce - Introduction to Shopping Cart
E-Commerce - Functions of a Shopping Cart
E-Commerce - Payment Gateways for Shopping Carts
E-Commerce - Shopping Cart Problems
E-Commerce - Completing The Purchasing Process and Tracking Shoppers Information
E-Commerce - Security in E-Commerce
E-Commerce - Building An Online
eCommerce Store Website With WordPress
E-Commerce - WordPress Practical Video Lectures
E-Commerce - WooCommerce Practical Video Lectures
E-Commerce - Exams and Certification

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ELECTRICAL SAFETY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Electrical Safety?

Electrical Safety is the technical measures put in place to prevent harmful and dangerous electrical hazards on workers and equipment that may arise from electrical surges and mishaps.

Electrical Safety can also be defined as the precautionary measures observed to prevent harmful and dangerous electrical effects on employees and equipment such as electric shocks, electrocution, injuries, explosion, fire outbreak and many others.

We rely on electricity on most of our day to day activities, but sometimes underestimate its capability of causing injury. Some of the serious injuries you can receive from electricity include electrical shocks, electrical burns, and electrocution, which could be fatal.

Electrical Safety Precautions can protect against all types of electrical shocks and burns. Safety precautions could be different for the home and for the workplace, depending on the electrical devices being dealt with.

Electrical Safety Basics

Most electrical devices pose a higher threat to life because of their high voltage and high electrical power in nature. So you must take further safety precautions and know safety basics when dealing with these devices.

Below are Electrical Safety basics you need to know:

1. Do not use exposed conductors holding 50 volts or more.

2. Ensure electrical equipment is properly connected, grounded and in good working order.

3. Do not use extension cords as permanent wiring and should be removed after temporary use for an activity or event.

4. Equipment with high amperages such as space heaters, portable air conditioners, and other equipment must be plugged directly into permanent wall receptacles.

5. Do not use or alter any building's electrical service, including circuit breaker panels, unless you are specificallyqualified and authorized to do so.

6. Beware of wet environments because it can increase the risk of an electrical shock.

7. Avoid touching any electrical wire without safety gloves, even if the wire seems safe and insulated. Also, ensure you have your footwear, your footwear must also be safe.

8. Always note the safety precaution manual, and check for all the safety equipment before coming in contact with electrical wires or devices.

9. Always perform a brief inspection if you are working on a power station to look for possible threats and eliminate them before beginning work.

Advantages of Electrical Safety

Some of the advantages of Electrical Safety include:

1. It provides safety and confidence in our homes and workplaces.

2. It helps employees understand the types of electrical hazards, how they occur and the proper precautions required to handle electricity and electrical devices.

3. It reduces the chances of the explosion, injuries or death in electrical environment.

4. It helps to mitigate the danger of electricity, especially in industrial areas by providing workers with the right practices and exposures in dealing with electricity and electrical devices.

5. It reduces the cost of equipments insurance and maintenance.

6. It helps to easily detect electrical faults.

7. It creates job opportunities for electricians.

8. It creates self-employment opportunities.

Causes of Electrical Hazards

The following are some of the causes of electrical hazards:

1. High Surge from Power Station Supply
2. Over-loading of Electrical Lines and Devices
3. Liquid Exposures
4. Faulty or Inadequate Wiring
5. Faulty Electrical Devices
6. Faulty Transformers
7. Short Circuit
8. Mishandling of Electrical Devices and Machineries
9. Faulty or Damaged Insulations

Electrical Safety Devices

1. Fuse: A Fuse is an electrical device that has the capability to protect an electric circuit from excessive electric current.

2. Circuit Breaker: Circuit breakers are electrical devices that protect circuits from over-load current conditions.

3. Ground Fault Circuit Interrupter: A ground fault circuit interrupter is an electrical device designed to detect any tiny mismatch in currents, going into and out of the circuit, in order to prevent electrocution.

4. Surge Protectors: Surge protectors are electrical devices designed to protect our homes and appliances against sudden spikes in electrical current.

Why Electrical Safety?

Electrical Safety offers lightning and earthing protection systems which are essential for protection of humans, structures and protection of properties from destruction caused by lightning effects and associated risks of fire, transmission lines, electrical equipment shocks and unexpected high current surge or voltage.

Electrical Safety offers insulation systems which are essential for protection against direct electric shocks from positive wires and high tension cables.

Electrical Safety standards are developed by various government and agencies. They are targeted towards the quality of electrical products that are sold worldwide. In most markets, it is mandatory for electrical products to conform to safety standards promulgated by safety and standard agencies. To conform to Electrical Standards, the product must pass certain safety test such as:

1. High Voltage Test (also called as Dielectric Voltage, Withstand Test or High Potential Test),
2. Insulation Resistance Test,
3. Ground (Earth) Bond Test,
4. Ground Continuity Test,
5. Leakage Test,
6. Earth Leakage Current Test,
7. Enclosure Leakage Current Test.

In the Full course, you will learn everything you need to know about **Electrical Safety** with **Certificate** to showcase your knowledge.

Electrical Safety Course Outline

Electrical Safety - Physiological effects of electric current
Electrical Safety - Electric power systems
1. Low voltage overload and short-circuit protection
2. Earth fault protection

Electrical Safety - The philosophies of earthing
1. Options
2. Earthing electrical enclosures
3. Earth return circuit
4. The need for bonding
5. Limitations
6. Reducing the risks
7. Electricity supply systems —principles and practice
8. Characteristics of supply
9. Earthing systems
10. Measurement of electrode contact resistance and ground
11. resistance
12. Review

Electrical Safety - Cables and fires
1. Polyvinyl chloride cables and wiring
2. Mineral insulated (MI) cable
3. Silicone rubber cables and wiring
4. Cross-linked polyethylene cables
5. Thermal ratings

Electrical Safety - Electrical equipment for use in explosive atmospheres
1. Development of area classification
2. Assessment of extent of zones
3. Other properties of explosive atmospheres
4. Electrical sources of ignition
5. The design of electrical apparatus for use in hazardous areas
6. General principles of design
7. Harmonised standards and the
8. New Approach

Electrical Safety - Protection by flameproof enclosure

1. Principles of testing
2. Permitted flameproof gaps
3. Methods of connecting flameproof equipment
4. Applications and limitations of flameproof protection
5. Review

Electrical Safety - Protection by intrinsic safety

1. The design of intrinsically safe systems
2. Applications of IS systems
3. Testing for intrinsic safety
4. Ignition by overheated components

Electrical Safety - Electrical apparatus in areas subject to flammable dusts

1. Dust clouds
2. Deposited dust
3. Surface temperatures
4. Design of apparatus
5. Causes of dust fires and explosions

Electrical Safety - Design, workmanship and maintenance

1. Designing for safety
2. Workmanship and maintenance

Electrical Safety - Stored energy

1. Batteries
2. Capacitors

Electrical Safety - Electric welding

1. Arc welding
2. Resistance welding
3. Hazards associated with electric welding
4. Review

Electrical Safety - Lightning phenomena and protection

1. The nature of lightning
2. Development and characteristics of a lightning stroke to the
3. ground
4. Protection of buildings and services
5. Earthing of buildings and lightning conductors
6. Protection of tank farms
7. Summary of lightning protection
8. Statistical risks

Electrical Safety - Coping with static

1. Electric charges on solid surfaces
2. Electric charges on powders
3. Electric charges in liquids
4. Electric charges in gases
5. Ignition of explosive gases
6. Electrostatic painting and finishing

Electrical Safety - Electromagnetic radiation

1. Circuits which produce and accept radiation
2. Electromagnetic interference
3. Electromagnetic pulse
4. Radiological effects

Electrical Safety - Earth currents and their effects

1. Electric traction
2. Railway signalling
3. Corrosion of buried structures
4. Cathodic protection

Electrical Safety - Video Lectures

Electrical Safety - Exams and Certification

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ELECTRONIC CIRCUITS COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What Is Electronic Circuit?

Electronic Circuit is the electric current that is made up of conducting components such as the capacitors, diode, resistors, inductors, coil, transformers, etc. These components or devices are linked to each other through conductive traces generally made up of copper or conductive wires by which electric current can pass through. In a more practical view, these electronic components are soldered together unto a Printed Circuit Board PCB board to perform its predetermined function.

Electric Current is a flow of electric charge in a circuit. The points where those electrons enter in an electrical circuit is known as the "source" of electrons. The point where the electrons leave in an electrical circuit is known as the "earth ground" or "return".

The Exit Point of the electric current in the circuit is called "return" because the electrons always end up in the source when they have successfully completed the parts of an Electrical Circuit.

Most Electronic Circuits are designed with the aid of **Computer-Aided Design** programs, or CAD. Most of the circuits you can see in digital computers are extremely complex and have millions of transistors in them, so CADs are the only more practical way to design them. The circuit designer would start out with a general specification of the functions of the circuit, then the Cad programs would lay out the complex patterns with all its interconnections.

Features And Components Of Electronic Circuits

Below are some of the Features Of Electronic Circuits.

1. Capacitors: Capacitors are the components of electronic circuits that can store electric charges temporarily. they come in different varieties with the most common ones being electrolytic and ceramic disk. they are made up of one or more pairs of conductors separated by an insulator.

2. Diodes: Diodes allow electric current to pass through them in one direction only. each diode in an electronic circuit has two terminals known as the anode and cathode. When the anode is charged, with positive voltage and the cathode is charged with a negative voltage, the electric current can then flow through. Reversing this voltage would prevent the current from flowing through.

3. Integrated Circuits (IC): An integrated circuit is a special device that has basically all the components that are needed in an electronic circuit. this component has diodes, transistors, and all other devices which are squeezed into a tiny piece of silicon. these components are used in a lot of electronic devices including computers, calculators, and watches.

4. Inductors: Inductors are passive components that store electrical energy in the form of a magnetic field. An inductor is simply made up of a coil of wire that is wound across some kind of core. This core could be a magnet or air. when the current is being passed through the conductor, a magnetic field is created around it. the magnetic field is stronger if the core is made up of the magnet.

5. Microcontrollers: Microcontrollers are very small computers that are used to control a multitude of devices, such as power tools, remote controls, medical equipment, and office machines.

6. Transformers: Transformers in an Electronic circuit is built using two coils of wires called primary and secondary coil, transformers are commonly used to step up or step down power.

7. Batteries: Batteries convert chemical energy to electrical energy. They act as both primary power and backup power of Electonic Circuits. The two different cells of a battery are the anode (+) and cathode (-).

8. Fuses: Fuses help to prevent components in the circuit from overloading with excessive current by breaking when there is excess current thus preventing the current from entering the circuit. A fuse is made up of connection body, support, contacts, and metal-fuse material such as zinc or copper.

Benefits Of Electronic Circuits

Below are some of the benefits of Electronic Circuits.

1. Electronic Circuits are easy to design.

2. Electronic Circuits makes it possible to eliminate error in a circuit because you design it with computerized tools.

3. The voltage at any point on an Electronic Circuit can be either high or low; hence there is a lesser chance of confusion.

4. It is more secure and reliable.

5. Electronic Circuits has higher accuracy

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ELECTRONIC MEASURING INSTRUMENTS COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Electronic Measuring Instruments?

Electronic Measuring Instrument is any device designed specifically for measuring any physical volume, quantity or scope such as meters and testers for quality assurance. In the field of physical sciences, engineering and also in the area of quality assurance, measurement is the process of gathering, storing and comparing physical quantities of real-world objects and events.

Measurement is defined as the designation of a number to a property of an event or object, that can be correlated with other pre-existing events or objects. The scope, definitions, and application of measurement all depend on the context and discipline.

Pre-defined standard objects and events are used as units for measurements, and the process of measurement gives a number describing the item under study and the referenced unit of measurement.

If a device can accurately measure the basic electrical or electronic quantities of another physical device, such as the voltage, current or scope, it is then referred to as basic measuring instrument.

Features of Electronic Measuring Instruments

Some of the features of Electronic Measuring Instruments are:

1. Voltmeter: As the name suggests, an electronic voltmeter is a measuring instrument that is used to measure the voltage across any two points of an electric circuit. There are two types of voltmeters which are AC voltmeter, and DC voltmeter. AC voltmeter measures the AC voltage across any two points of an electric circuit whereas DC voltmeter measures the DC voltage across any two points of an electric circuit.

2. Ammeter: As the name suggests, an ammeter is simply a measuring instrument that measures the current flowing through any two points in an electric circuit. There are two types of ammeters AC ammeter and DC ammeter. AC ammeter measures the AC current that flows through any two points of an electric circuit whereas DC ammeter measures the DC current that flows through any two points of an electric circuit.

3. Ohmmeter: Ohmmeter is used to take measurement of the value of resistance between any two points of an electric circuit. An ohmmeter can also be used for finding the value of a resistor that is unknown. There are two types of ohmmeters which are shunt ohmmeter and series ohmmeter. In the series type of ohmmeter, the resistor that its value is unknown and about be measured should be connected in series with the ohmmeter. It is very useful for measuring high values of resistance.

4. Multimeter: A multimeter is an electronic measuring instrument that is used to measure various quantities such as voltage, current & resistance at the same time. It can be used to measure AC and DC voltages, AC and DC currents, and resistances of different ranges.

Benefits of Electronic Measuring Instruments

Below are some of the advantages of Electronic Measuring Instruments

1. Most of the quantities that are measured can be transformed by transducers into electronic signals.

2. An electrical or electronic signal can be filtered, amplified, sampled, multiplexed, and measured.

3. The measurement of a quantity can easily be achieved in or converted into digital form for computerized recording and analysis.

4 The measured signals can be transmitted across long distances with the help of cables or radio links, with zero loss of information.

5. Many measurements can be conducted either concurrently or in rapid succession.

6. Electronic circuits can identify and increase/amplify very weak signals and it can measure the events of a very short duration as well.

Career Opportunities in Electronic Measuring Instruments

An increasing number of companies are bringing up the need for Electronic Measuring Instruments professionals. If you are in the look for career opportunities that are available in this field, they are large, and some of them are listed below.

1. You get a lot of job opportunities with Electronic Measuring Instruments.

2. You become an Electronic Measuring Instruments Specialist in any organization.

3. Become an Electronic Measuring Instruments Engineer.

4. Become a Functional Consultant on Electronic Measuring Instruments.

5. Become an Application Consultant, either freelancing or in an organization.

6. Become an Advisory Consultant on Electronic Measuring Instruments.

7. Become the Manager of a business deals with Electronic Measuring Instruments, whether it's your personal business or an organization.

8. You can become an Electronic Measuring Instruments Functional Consultant for an organization.

9. You can become a Team Leader in any organization and be responsible for managing production and measurements.

10. You can become a Senior Measuring Engineer in a manufacturing or engineering company commanding high pay.

11. Job Opportunities and Career Advancement.

Electronic Measuring Instruments Course Outline

Electronic Measuring Instruments - Introduction
Electronic Measuring Instruments - Performance Characteristics
Electronic Measuring Instruments - Measurement Errors
Electronic Measuring Instruments - Measuring Instruments
Electronic Measuring Instruments - DC Voltmeters
Electronic Measuring Instruments - AC Voltmeters
Electronic Measuring Instruments - Other AC Voltmeters
Electronic Measuring Instruments - DC Ammeters
Electronic Measuring Instruments - AC Ammeter
Electronic Measuring Instruments - OHMMeters
Electronic Measuring Instruments - MultiMeter
Electronic Measuring Instruments - Signal Generators
Electronic Measuring Instruments - Wave Analyzers
Electronic Measuring Instruments - Spectrum Analyzers
Electronic Measuring Instruments - Basics of Oscilloscopes
Electronic Measuring Instruments - Special Purpose Oscilloscopes
Electronic Measuring Instruments - Lissajous Figures
Electronic Measuring Instruments - CRO Probes
Electronic Measuring Instruments - Bridges
Electronic Measuring Instruments - DC Bridges
Electronic Measuring Instruments - AC Bridges
Electronic Measuring Instruments - Other AC Bridges
Electronic Measuring Instruments - Transducers
Electronic Measuring Instruments - Active Transducers
Electronic Measuring Instruments - Passive Transducers
Electronic Measuring Instruments - Measurement Of Displacement
Electronic Measuring Instruments - Data Acquisition Systems
Electronic Measuring Instruments - Video Lectures
Electronic Measuring Instruments - Exams And Certification

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Every Life, Every Moment, Every Day. A New Discovery...

ENVIRONMENTAL SCIENCE AND TECHNOLOGY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Environmental Science and Technology?

Environmental Science and Technology is the study of the environment and the physical and biological habitat that surrounds us, which can be felt by our physical facilities (seen, heard, touched, smelled and tasted.) and how it affects us.

Environmental Science is the field of science that studies the interactions of the physical, chemical, and biological components that make up the environment and also the relationships between these components and the effects these components have with the organisms in the environment.

Environmental Science is also referred to as an Interdisciplinary field because it embeds the ideas gotten from multiple disciplines. The natural sciences such as biology, chemistry geology are included in environmental science When most think of environmental science, they think of those natural science areas, but the areas that makes Environmental Science such a complicated and wide field of study is that it involves different areas from the social sciences and humanities.

The Social Science fields that are fused into Environmental Science include geography, economics, and political Science. Philosophy and ethics are the two` major fields that are inside humanities that are also together with environmental science. By joining the various aspects of the natural sciences, social sciences, and the field of humanities, the field of Environmental Science And Technology can cover more topics and also look into the problems and topics from many different points of view.

Features Of Environmental Science And Technology

Below are some of the Features of Environmental Science And Technology

1. Atmospheric Sciences: Atmospheric Sciences focuses on the Earth's Atmosphere, with an emphasis upon its interrelation to other systems.

2. Ecology: Ecology is defined as the study of the interactions between various organisms and the Environment they live in.

3. Environmental Chemistry: Environmental Chemistry is the study of chemical changes in the environment. The principal areas of study include soil contamination and water pollution.

4. Geosciences: Geosciences are made up of Environmental geology, Environmental soil science, volcanic phenomena and evolution of the Earth's crust.

Benefit Of Environmental Science And Technology

Below are some of the Benefits Of Environmental Science And technology

1. Preservation: The introduction of Computer Systems into both the home and work environments has completely removed the need to have piles of paper files. In the long-run, these minor changes will have a noticeable impact on the environment and help to preserve forests. Recycling technology will also help to reduce waste.

2. New Developments: While technology is always blamed for so much of the pollution that contributes to global warming, technology also provides the solution to the problem. Research into new methods of generating power and electricity is so much. Experts are hoping to get cleaner and renewable sources of energy to replace the finite supply of fossil fuels and reduce global warming and climate change. New applications such as wind turbines, solar power, and hydro-electric power are under scrutiny and are constantly subject to tests to improve the efficiency of existing systems.

3. Helping To Develop The World: One of the fundamental reasons behind the noticeable distance between the developing world and the developed world is the lack of technology in the previous. The developed world is heavily dependant on technology which makes life much easier and production much more efficient. Technology is seriously lacking in developing countries and this brings about widespread poverty and a lack of basic amenities such as clean, running water and food supplies.

4. Innovative Technology: New Technology that will help to increase food production, improve infrastructure and healthcare and also create sanitation facilities can dramatically change the quality of life in the underdeveloped and developing world. With the aid of charitable organizations and better Government leaders from developed countries, this kind of technology is gradually being introduced into developing and underdeveloped countries.

In the Full Course, you will learn everything you need to know about **Environmental Science and Technology** with **Certification** of Completion to showcase your knowledge.

Environmental Science and Technology Course Outline

Environmental Science and Technology - Introduction
Environmental Science and Technology - Components and Subcomponents of Environment
Environmental Science and Technology - Science of Environment
Environmental Science and Technology - Current Environmental Issues
Environmental Science and Technology - Engineering Interventions to Reduce Environmental Stresses
Environmental Science and Technology - Waste Minimization and Clean Technology
Environmental Science and Technology - Environment and Development
Environmental Science and Technology - Tools for Environmental Management
Environmental Science and Technology - Environmental Performance Standards
Environmental Science and Technology - Video Lectures
Environmental Science and Technology - Exams and Certification

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ETHEREUM COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Ethereum?

Ethereum is a decentralized open source blockchain that features good contract functionality.

Ethereum was launched in 2015 by Vitalik Buterin. Ether is a relative or a native to crypto currency token of the Ethereum platform.

Ethereum is the second-largest cryptocurrency by calculation of market capitalization, only been overhauled by just Bitcoin, it is second behind Bitcoin.

Ethereum is one of the most actively used blockchain in the world and has made impact.

Ethereum is also referred to as an open access to digital money and data-friendly services for everyone no matter who you are, what you do, your background or location.

An Overview of Ethereum also called Ether (ETH), the cryptocurrency of the Ethereum network, is never to be argued the 2nd most popular digital token after the bitcoin (BTC).

Indeed, as the second largest cryptocurrency by market capital, It is likely to be Compared. Right now there is a comparison between Ethereum ETH and Bitcoin BTC which is only natural.

Ether and Bitcoin are very similar in many areas and behaviors: each of them is a digital currency traded all trading online exchanges and are stored in different types of cryptocurrency wallets.

Etherium and Bitcoin tokens are decentralized, meaning that they are never issued or regulated by a central bank or other authority.

Ether and Bitcoin are making use of the distributed ledger technology also known as blockchain.

However, there are also huge crucial distinctions between the ETH and BTC operations which are the two most populated cryptocurrencies by market capital.

Features and Benefits

Ethereum is a whole network of its own, it has it's own internet browser, payment system and coding language. One of the most important thing is that, it enables it users to be able to create decentralized applications on Ethereum's Blockchain.

1. Ether (ETH) is Ethereum's cryptocurrency. It is the fuel that runs the network. It is used as payment for the computational resources and also for the transaction fees for any transaction carried out on the Ethereum network. Like Bitcoins, Ether is a peer-to-peer currency. Apart from it being used for transaction payment, Ether is also used to buy gas and fuel, which is used to pay for the computation of any transaction made on the Ethereum network.

2. Smart Contracts: Ethereum allows the development and deployment of these. Smart contracts are revolutionizing the way and manner traditional contracts worked, which is why one need to know about them. A smart contract is a normal simple computer program that helps to facilitate the exchange of any valuable asset between any two parties. It could be shares, property, money, or any other digital asset that you want to exchange.
Anybody on the Ethereum network can create these contracts on their own. The contract consists basically of the terms and the conditions which is mutually agreed on between the parties (that is the peers).

3. Ethereum Virtual Machine: Ethereum provides the underlying technology the architecture and the software that understands smart contracts and allows you to interact with it.

4. Decentralized autonomous organizations (DAOs): Ethereum allows you to create these for democratic decision-making.

5. Smart contracts guarantee security.

6. It's not regulated by government entities.

7. It's developed with open source.

8. It's very hard to fake.

9. It's cheaper.

Why Study Ethereum

1. Understand the operations of Etheruem Technology
2. Become a cryptocurrency professional
3. Become a cryptocurrency trader or miner
4. Become a cryptocurrency exchanger
5. Enrich your CV and increase your earning potential
6. Job opportunities and career advancement in Fintech industry.

Ethereum Course Outline

Ethereum - Introduction
Ethereum - Smart Contracts
Ethereum - Solidity for Contract Writing
Ethereum - Developing MyContract
Ethereum - Compiling the Contract
Ethereum - Deploying the Contract
Ethereum - Interacting with the Contract
Ethereum - Limitations of Remix
Ethereum - Ganache for Blockchain
Ethereum - Ganache Server Settings
Ethereum - A Quick Walkthrough
Ethereum - MyEtherWallet
Ethereum - Creating Wallet
Ethereum - Attaching Wallet to Ganache Blockchain
Ethereum - Deploying Contract
Ethereum - Interacting with Deployed Contract
Ethereum - Creating Contract Users
Ethereum - Summary
Ethereum - Video Lectures
Ethereum - Exams and Certification

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EXTREME PROGRAMMING COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Extreme Programming?

Extreme Programming is a software development blueprint that is designed to improve the quality of software and the software's ability to properly adapt to the always-changing needs of the client or customer. Very similar to other Agile Methods of software development.

Extreme Programming's main focus is to provide iterative and regular small releases throughout the entire project, which allows both the team members and customers to properly look through and review the projects progress through the entire **Software Development Life Cycle (SLDC).**

It is an agile software development framework whose main aim is to produce a higher quality of software, and a higher quality of life for the development team.

Extreme Programming includes the following: Programming in pairs or carrying out very extensive review of each other code, unit testing of all the code in the codebase, avoiding writing code for features until they are actually needed, a flat management structure, code simplicity and easily understandable code, Extreme Programming allows you to always be prepared for changes in customers requirements from time to time.

Extreme Programming takes its name from the general idea that the more advantageous parts of traditional software engineering practices are taken to "Extreme levels". As an example, code reviews seem like a beneficial practice, when taken to Extreme, code is then reviewed continuously, i.e. the practice of pair programming.

Extreme Programming encourages beginning with the simplest of solutions and refactoring to much better ones. The difference between this method and more regular software development methods is the emphasis on building and coding for the needs of the present instead of those of the future. Lovers of extreme programming have accepted the disadvantage that this can sometimes mean more effort in the future to change the system. Their theory is that this is more than compensated for by the advantages of not investing in future needs that might change before they become useful. Coding and building for uncertain future requirements imply the risk of spending resources on something that might not be of use.

Origin Of Extreme Programming

Software development back then in the 1990s was formed by two major concepts:

1. On the inside, object-oriented programming replaced procedural programming as the main programming structure liked by people in the industry;

2. On the outside, the coming of the Internet and the dot-com boom focused on speed-to-market and company-growth as very competitive business factors. Fast-changing requirements needed shorter product life-cycles and were frequently incompatible with the traditional techniques of software development.

More Information about the principles and techniques behind extreme programming was shared with the wider world through various conversations on the WikiWikiWeb. Various contributors discussed and increased upon the ideas, and some spin-off methods formed. Also, extreme programming concepts have been explained, for several years, using a hyper-text system map on the extreme programming website.

Features And Characteristics Of Extreme Programming

Below are some of the Features and Characteristics Of Extreme Programming:

1. Coding: Code is the software instructions that a computer can understand and interpret. Coding is seen as the most important process of the software development process because without coding, there is no working product. Coding is used to figure out the solution that best fits the problem. In Extreme Programming, a programmer for example who is struggling with a very complex Programming problem, or finding it hard to explain the solution to fellow programmers, might code it in a simplified manner, and use the code to explain what he or she means.

2. Testing: Testing is the main part of Extreme Programming. An extreme programming approach to testing is that if a small amount of testing can eliminate a few flaws, a lot of testing can eliminate a lot of flaws.

3. Listening: Programmers must listen to what the customer needs the software to do and what the business logic needs to do. They must understand these very well enough to give the customer feedback about how the technical aspect of the problem can be solved.

4. Designing: From the point of view of simplicity, we could say that software development doesn't need more than coding, testing and listening but this logic surely wouldn't work because, in the process of developing, one could get lost in the little detail that he would forget to see the bigger picture. One can overcome this problem by creating a design structure that organizes the logic in the system.

5. Communication: While building software systems, the developers need to communicate the system requirements to whoever wants to use it. In regular software development, this task is carried through documentation. Extreme programming techniques can be viewed as the methods for quickly developing and distributing institutional knowledge among the members of a development team. The goal is to give all developers a distributed view of the system that matches the view held by the users of the system.

6. Feedback: Extreme Programming has a way by which the customer can communicate with the developer when working in this way, the developer would keep updating the features based on how the client responds to the current stage.

Goals Of Extreme Programming

1. It is an attempt to bring together humanity and productivity.
2. A mechanism for social change by lowering its cost.
3. A path to improvement.
4. A style of development.
5. A software development discipline.

Benefits Of Extreme Programming

Below are some of the benefits of Extreme Programming:

1. It saves costs and time.
2. It reduces risks.
3. It enforces simplicity.
4. It requires constant feedback from the client to the developer hence improving communication between both parties
5. It makes working on software faster.
6. It enforces teamwork.

Values Of Extreme Programming

1. Communication.
2. Simplicity.
3. Feedback.
4. Courage.
5. Respect.

Best Practices in Extreme Programming

Extreme programing has 12 best practices, derived from the best practices of software engineering.

They are as follows:

1. Pair Programming.
2. Planning Game.
3. Test-Driven Development (TDD).
4. Whole Team.
5. Continuous Integration (CI).
6. Design Improvement.
7. Small Releases.
8. Coding Standards.
9. Collective Code Ownership
10. System Metaphor
11. Simple Design
12. Sustainable Pace.

Application of Extreme Programming

Extreme programming remains a suitable and sensible choice for certain projects. Projects that are suited for Extreme Programming are those that:

1. Involve new or prototype technology, where the requirements change very fast and rapidly, or some development that is required to discover unforeseen implementation problems.

2. As we research projects, where the end work is not the software product itself, but domain knowledge.

3. Are small and more easily managed through informal methods.

Why Study Extreme Programming

1. Extreme programming ensures that you produce an iterative and recurrent software release throughout the project

2. Extreme programing ensures that you are able to collaborate with teams

3. Collective ownership of codes is ensured

4. Job opportunities and career advancement.

Extreme Programming Course Outline

Extreme Programming - Introduction
Extreme Programming - Values and Principles
Extreme Programming - Practices
Extreme Programming - Supporting Practices
Extreme Programming - Evolving Practices
Extreme Programming - Process Cycle
Extreme Programming - Pair Programming
Extreme Programming - Roles
Extreme Programming - Activities and Artifacts
Extreme Programming - Rules
Extreme Programming - Additional Features
Extreme Programming - Scrum + Extreme Programming
Extreme Programming - Tools
Extreme Programming - Video Lectures
Extreme Programming - Exams and Certification

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FASHION DESIGN AND SEWING TECHNOLOGY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Fashion Design and Sewing Technology?

Fashion Design and Sewing Technology refers to the implementation of technology in the process and art of designing clothings including its accessories in order to keep up with various fashion trends and demands.

Fashion Designing is the art of implementing various design, aesthetics and beauty to clothing and its accessories. It is majorly influenced by both cultural and social attitudes which changes over time. Fashion Designers work in several ways in designing clothing and accessories such as necklaces, shirts, blouses and bracelets etc. Fashion designers must at all times be prepared for various changes to meet consumer demands and tastes.

Fashion Designers are individuals who carry out research on fashion trends and express them to their audience. Implementing technology into fashion lets designers have access to various technological tools that aids in designing various fashion trends, it also aids in improving the quality of products, for example, designers will use various design tools to design and display fashion for a special event or for a specific demand.

Elements of Fashion Designing

Here are some of the elements of fashion design:

1. Color: The value (light and darkness) of and intensity of the color (brightness or dullness) used, the proportion of different colors used, colors of the accessories used, where the colors are placed all are very important in the fashion designing process as the first impression of anything is important.

2. Silhouettes: It is the basic shape, outline, and style of the clothing. It is also an important element of fashion design.

3. Fabric: The type of fabric you choose for design is very important in how it will shape up. The fabric texture refers to the hand or feel of the fabric including its stiffness or softness and its appearance, drape and the visual effect of all these on the consumer/wearer.

4. Prints and Patterns: When designing you will be taking into consideration the designs inherent in the fabric, cause they play a significant role in fashion design.

5. Body Shape: When you wear clothes, you want to look fashionable and well presented. An hourglass figure is deemed as the ideal body shape though it can also be different according to the time, social and cultural influences, etc. Fashion designers design clothes that will give the wearer this ideal body shape.

6. Balance and Rythmn: This refers to the symmetry (or asymmetry) in the shapes, colors, style lines, elements; the relative degree of importance given to different elements of the design. Rhythm refers to the pattern created by the use of lines or shapes.

Features of Fashion Design and Sewing Technology

There are lots of features and characteristics of fashion designing and sewing technology, some of them are:

1. Strong Business Sense: A great fashion designer has a very excellent business skills. You would understand budget allocations alongside various marketing and sales concepts that are essential to getting designs produced and sold.

2. Good Communication: Several people are usually involved in the creation of a clothing accessory, and as a designer, you must be able to communicate effectively with everyone that is involved and in what your client expects.

3. Sense of Competition: As a fashion designer, you should continually strive to do better than your fellows to come up with the latest and high-quality innovative designs quickly.

4. Highly Creative: A fashion designer should possess a great sense of style and should constantly come up with new ideas for fashions.

5. Strong Drawing Skills: Strong and Excellent drawing skills means that a fashion designer should be able to easily sketch their ideas onto paper to start the process of production.

6. Good Eye for Materials: You should have an eye for the materials of a garment, as well as the various characteristics that make them unique, such as fabric and color.

7. Social Media: In fashion designing and sewing technology, fashion designers should be able to leverage social media marketing to show off their latest designs and reach a wide range of new customers.

8. Design Tools: Designers should be able to use various design tools and technology to simulate and create new designs.

Benefits of Fashion Design and Sewing Technology

There are many benefits of fashion design and sewing technology, some of them are:

1. Great fabrics, sewing techniques, colors, high quality of clothing materials are all made possible with fashion technology.

2. There is no more need to waste materials to showcase designs you can use various digital tools to implement your designs.

3. Ease of sewing and marketing.

4. Large availability of free design tools.

5. Implementation of tech into fashion has helped in keeping up with the unending fashion demands and trends.

Why Study Fashion Design and Sewing Technology?

1. Sharpen Your Skills: Fashion design helps you sharpen your skills, skills like understanding the color palette and textures, the ability to sketch figures can be enhanced in fashion design.

2. Out-Of-The-Box Thinking: Fashion design affords you the opportunity to experiment with various ideas.

3. Knowledge Transfer: Fashion design helps you share your knowledge and learn on a daily basis. The learning never stops as new designs are invented every time.

4. Be your own Boss: Fashion design helps you be the boss of your own, you can work from anywhere, and at your own pace. You can set up your own fashion house, boutiques or simply work from your home office.

5. Higher Earning Potential: The demand for fashion designers is on the rise every day, and where demand is, the capabilities are enormous.

6. Area of Specialization: Fashion design has a vast no of areas where you can specialize, discover your area and excel in it. Whether it be traditional, corporate, or kid's designs, the list is endless.

7. Career Growth: Fashion design is a booming career where your creativity can be harnessed and rewarded handsomely.

8. Global Community: Join a global community of fashion designers and enthusiasts, assists famous designers, newbies, celebrities.

Fashion Design And Sewing Technology Course Outline

Fashion Design & Sewing Technology - Principles Of Fashion
Fashion Design & Sewing Technology - Fashion Producers
Fashion Design & Sewing Technology - Fashion Designing & Accessories
Fashion Design & Sewing Technology - Principles Of Designing
Fashion Design & Sewing Technology - Colours
Fashion Design & Sewing Technology - Colour Hormonies & Application
Fashion Design & Sewing Technology - Dress Designing
Fashion Design & Sewing Technology - Sewing Machines
Fashion Design & Sewing Technology - Special Machines
Fashion Design & Sewing Technology - Sewing Machine Attachmrnts
Fashion Design & Sewing Technology - Sewing Machine Care And Maintenance
Fashion Design & Sewing Technology - Stitching Mechanism
Fashion Design & Sewing Technology - eeding Mechanism
Fashion Design & Sewing Technology - Spreading
Fashion Design & Sewing Technology - Cutting
Fashion Design & Sewing Technology - Marking
Fashion Design & Sewing Technology - Pressing
Fashion Design & Sewing Technology - Sewing Federal Standards For Seam
Fashion Design & Sewing Technology - Sewing Federal Standards For Stitch
Fashion Design & Sewing Technology - Sewing Thread
Fashion Design & Sewing Technology - Video Lectures
Fashion Design & Sewing Technology - Exams and Certification

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FIGMA COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Figma?

Figma is a web-based graphics editing and user interface design software application. You can use it to do all kinds of graphic design work from wireframing any website, designing mobile application interfaces, crafting social media posts, prototyping designs, and everything that is in between.

Figma is different from any other graphics editing tools. Mainly because it works directly on your browser. This would mean that you get to access your projects and start your designing from any computer or platform without having to buy several licenses or install any special software.

Another reason why designers love Figma, it is that Figma offers a generous free plan where you can create and store 3 active projects all at a time. It is more than enough for you to learn, experiment, and work on all your small projects.

At its core, Figma is a tool that is made for user interface design and for prototyping. Before moving forward, it is best that you get a basic understanding of UI design. it will also help you make the most of the free application.

Features of Figma

1. Interface: A like interface and all the same drawing tools such as Sketch.

2. Prototyping: Figma has a clickable prototyping feature that is very similar to Craft + InVision.

3. Built-in Commenting: Anyone that has the link can add comments anywhere on the design, this is similar to how commenting works in InVision. You can tag people in comments, mark your comments as resolved, and even integrate it with Slack.

4. Developer Handoff: Devs can even get dimensions, styles, and download icons and images from the project link. it is like Zeplin, but again, you do not have to sync your artboards whenever you update your designs.

5. Version Control: Figma includes a version history for all of your collaborators. You can roll back to or you can fork from a previous state. This works like time machine on a Mac device.

6. Multiplayer Collaboration: Several people can collaborate in real time. Similar to Freehand, we all see each other's cursors on the screen and they can all draw things and make comments.

7. Liveshare: If you click on someone's avatar, you will get to see what they are seeing on their screen and follow their cursor around. This works just like InVision Liveshare.

Benefits of Figma

There are several benefits of Figma, and soe of them are:

1. Collaboration in Figma Is Simple and very Familiar.
2. Figma makes use of Slack for Team Communication.
3. Figma file Sharing Is Uncomplicated and very Flexible.
4. Embedded Figma Files offer Real-time Updating.
5. Figma Is very Great for Design Review Feedback.
6. Developer Handoff Is hugely Facilitated Using Figma.

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FINTECH - FINANCIAL TECHNOLOGY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What Is Financial Technology – Fintech?

Financial Technology shortened to as Fintech is a term that is used to describe new technologies that seeks to improve and automate the delivery and use of financial services.

Fintech is introduced to help companies, business owners and consumers better manage all of its financial operations, processes, and lives by making use of highly specialized software and algorithms that are used on both computers and smartphones.

The word **"Fintech",** is a combination of **"Financial Technology".**

When Fintech first came up in the 21st Century, the term was first applied to the technology that is used at the back-end systems of well established financial institutions. Since then, however, there has been a shift to more consumer-oriented services and therefore it now has a more consumer-oriented definition. Fintech now involves other sectors and industries such as retail banking, education, fundraising and nonprofit, even investment management to mention but a few.

Fintech also involves the development and use of crypto-currencies such as bitcoin. That branch of fintech may see more headlines than others, though the big money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization.

Features of Fintech

Some of the most active areas of fintech innovation include or revolve around the following areas:

Cryptocurrency and Digital Cash: Fintech offers Blockchain technology, which includes BitCoin, LiteCoin, Ethereum, Ripple etc. These are distributed ledger technology (DLT) systems that manages and maintains records on a network of computers, but has no central ledger.

Smart Contracts: Smart contracts or e-contracts makes use of computer programs to automatically and digitally carry out contracts between buyers and sellers.

Open Banking: Open banking is a financial technology that offers open APIs for third-party developers to build applications and services around financial institutions providing transparency options for account holders ranging from open data to private data.

Regtech: Regtech seeks to help financial firms to meet up with industry compliance rules, especially those that involve Anti-Money Laundering protocols and Know Your Customer protocols in order to fight fraud.

Robo-advisors: such as Betterment, makes use of algorithms to automate investment advice to lower its cost and increase it's accessibility.

Cybersecurity: given the proliferation of cybercrime and the decentralized storage of data, cybersecurity and fintech are intertwined.

Benefits of Fintech

1. Better Payment System: Fintech is a very useful software that can make businesses more accurately collect payments. They also ensure that they'll have good relations to customers to increase the chance of return customers and new buyers.

2. Rate of Approval: There are many small businesses across the US that are starting to use financial technology lenders. The main benefits of these vendors are accessibility and speedy loan approvals (typically within 24 hours).

3. Greater Convenience: There are many Fintech companies that provide a single platform of payments, such as Adyen. This Adyen company serves more than 4,500 businesses around the world.

4. Efficient Advice: Many of the latest systems rely on robo-advice to help people understand their finances. Fintech is a very low-cost option and you can get more useful information with this system. However, the main drawback is that this in-depth advice will not come from a professional adviser.

5. Advanced Security: Fintech company security methods are very secure to keep their customer's data safe. Many consumers use Fintech without any regrets, because it's safe for investment. Also, there are plenty of new options that you can use, like tokenization, biometric data, and encryption.

Why Study Fintech?

1. Gain essential fintech knowledge and skills.
2. Become a competent fintech professional and analyst.
3. Enrich your CV and increase your earning potential.
4. Job opportunities and career advancement.

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FIRE PROTECTION ENGINEERING COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Fire Protection Engineering?

Fire Protection Engineering is the application of science together with several engineering principles to protect humans, industrial materials, property and environments from the hazardous and destructive effects of smoke and fire. It completely includes engineering which focuses on fire detection, fire suppression, mitigation and fire safety engineering which uniquely concentrates on human behavior and maintaining a sustainable and achievable environment for evacuation from a fire.

Fire Protection Engineers find out various risks and design safeguards that help in preventing, controlling, and taking down the effects of fires. Fire engineers help architects, owners of buildings and the developers in evaluating the life safety of buildings and property protection goals.

Fire Engineers are also employed as fire investigators in organizations, including such very large-scale situations as the analysis of the collapse of the World Trade Center. NASA makes use of fire engineers in its space program to help improve the safety of the lives and equipment in their program. Fire Engineers are also made used to provide 3rd party review for fire engineering solutions that are performance-based which are submitted in support of local building regulation applications.

Fire Engineers, like their 'relatives' in other scientific and engineering disciplines, go through a formal course of education and continuing professional development to get and maintain their competence. Their education is typically made up of foundation studies in physics, mathematics, chemistry, and technical writing. Professional engineering studies train students on acquiring proficiency in statistics, material science, thermodynamics, dynamics, heat transfer, fluid dynamics, engineering economics, systems in engineering, reliability, ethics, and environmental psychology. Studies in combustion, the design of fire suppression systems, probabilistic assessment of risk or risk management, building fire safety, fire alarm systems, and the application and interpretation of model building codes, and the measurement and simulation of fire phenomena complete most academic curriculum of Fire Engineers.

Managing Fire Safety starts with the primary phase in the design of buildings and it continues through to the handover to the owner.

Components of Fire Protection Systems

1. Automatic Fire Sprinklers: One of the most important components of a fire protection system is automatic fire sprinklers, a sprinkler is activated by the heat put off by the fire once it reaches a certain temperature at the ceiling around that particular head. There are several types of fire sprinklers. Wet Pipe sprinkler systems are filled with water at all times, allowing for quick-fire suppression. They are the most common type of sprinkler and are both cost-efficient and low maintenance.

2. Standpipes: They are installed in the stairways of buildings that exceed a certain height or size, but can sometimes be located throughout the walls of the entire structure, providing coverage on every floor. Like automatic fire sprinklers, they are built into the initial construction of a building.

3. Fire Department Connections: These are usually included in the initial creation of the standpipes to provide an extra source of water to the building. Fire department connections are utilized by the firefighters on the scene to either supply water to the standpipes or supplement the building's already existing water supply. This additional water can be sourced from the fire truck itself or from a hydrant that can tap into the water the building's standpipes may not have access to.

4. Fire Alarm Systems: These are installed in every room of a building and are highly regulated by fire safety laws. Generally, these can be automatic or manual alarm systems. Fire alarm systems are put in place to alert a building's occupants in the event of a fire.

5. Smoke Control Systems: These are generally installed in the initial construction of a building as well, and work in conjunction with sprinkler systems to prevent as much damage as possible to the structural integrity of a building. Through the application of both physical barriers and mechanical systems, smoke control systems work to limit the spread of smoke through a building, ideally limiting the amount of damage the smoke can do to both the building and its occupants.

Features of Fire Protection Engineering

There are many features of Fire Protection Engineering and some of them are:

1. Fire Alarm Systems.
2. Smoke Control Systems.
3. Fire Command Center.
4. Fire Department Connections.
5. Fire Pumps.
6. Post-Fire Smoke Purge.
7. Auxiliary Radio Communication System (ARCS).

Benefits And Advantages of Fire Protection Engineering

There are many benefits and advantages of Fire Protection Engineering and some of them are:

1. Knowledge of Fire Protection Engineering helps to safeguards life and can also help to limit damage to lives and property from fire.

2. Fire Protection Engineering supports innovative architectural design without reducing the safety of those designs.

3. Fire Protection Engineering makes sure of statutory approval for very complex and innovative building designs.

4. With Fire Protection Engineering a very significant construction cost savings can be achieved if it is introduced during the early stages of the building design.

5. Fire Protection Engineering ensures the safety of building designs without over-design and unnecessary complexity.

6. Fire Protection Engineering provides reassurance to the team in charge of design that all aspects of fire safety have been considered from a safety and health compliance perspective.

Why Study Fire Protection Engineering?

1. Job Opportunities And Career Advancement.
2. Increase Your Earning Potential.
3. Opportunity For Work Travel.
4. Work In Different Environment.

Fire Protection Engineering Course Outline

Fire Protection Engineering - Introduction
Fire Protection Engineering - System Functions
Fire Protection Engineering - Performance-Based Fire Protection Design
Fire Protection Engineering - Prescriptive Fire Protection Design
Fire Protection Engineering - Interfacing With the Other Disciplines
Fire Protection Engineering - Fire Protection for New and Existing Buildings
Fire Protection Engineering - Writing Fire Protection Specifications
Fire Protection Engineering - Video Lectures
Fire Protection Engineering - Exams And Certification

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Every Life, Every Moment, Every Day. A New Discovery...

FOOD TECHNOLOGY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Food Technology?

Food Technology is the science that deals with the various techniques and principles involved in the processing and preservation of food substances. Food Technology is a branch of food science that is involved with the various production processes to develop edible products.

The Application of Food Science and Technology helps in producing more safer, nutritious and wholesome food products. The study of food technology is used to develop new systems and methods for keeping food products safe and immune from natural harms such as micro-organisms and bacterias. Food processing also helps in preservation and enhancement of food flavors and helps to reduce toxins in food products which produces a better nutritious and safer food products ready for marketing, distribution and public consumption.

The Modern Food Processing Techniques are key to the ever-flourishing supermarkets that we have today. For example, Extra nutrients and preservations can be added to food while processing to avoid spoilage. Some of the techniques that are used in preservation are spray drying, freeze-drying juice concentrates, and the introduction of artificial sweeteners, preservatives and colorants. Of recent, many products such as dried instant soups, reconstituted fruits and juices (sometimes blended fruits) and self-cooking meals were developed to benefit working people.

Process of Food Technology

Various food processing industries are involved in the process of food technology such as:

1. Primary and Secondary processing,
2. Quality Management,
3. Preservation,
4. Packaging, and
5. Labeling of a mixture of products such as dairy products, fruit & vegetable products, fish products, confectionery products, meat & poultry products and food grains.

Features of Food Technology

There are many features of Food technology and some of them are:

1. Food processing is the processing of food substances by modifying and improving their properties to preserve it, enhance and improve its quality or make it functional and more useful.

2. Food processors take raw vegetables, raw animals, raw food substances, marine materials and convert them into edible products with the use of the application of labor, energy, machinery and scientific knowledge.

3. Various biological, chemical and mechanical processes are used to convert perishable, bulky, and typically food materials that are inedible materials into more convenient, shelf-stable, and palatable foods and beverages.

4. Food technology includes all the aspects of food science, which include food production, food processing, and the distribution of food products. Several Professionals work to improve manufacturing methods through preservation, storage and new product development. They also work with food scientists to improve the nutritional value of food products.

5. The fields of study that are related to food technology include analytical chemistry, engineering, quality control, biotechnology, nutrition, and food safety management.

Benefits of Food Technology

There are many benefits, some of which are:

1. Food processing is made easier with application of science and technology,

2. Food processing and packaging is safer with application of technology,

3. Food processing is nutritious and modern with application of science and technology.

4. The Food processing industry is the largest manufacturing industry in the whole world. Employing over billions of people, so when you study food technology, you have a vast amount of job openings and the opportunities to start your own is never-ending for as long as humans and animals eat.

Role Of A Food Technologist

Food Technologists are indiviuals who take up Food Science and Technology as a career. They do pretty much everything from working with the pure science behind what the food is made up of to planning the efficient manufacture of food products.
Their activities include:

1. Identify ways to keep food fresh, safe and looking good

2. Research on a cheaper and faster way of producing food

3. Test the quality and safety of food

4. Invent new ‘recipes’ for foods using new ingredients

5. Make changes to foods, like creating sugar-free products

6. Design processes and machines that make the products on a large scale.

Why Study Food Technology?

1. Benefit From Job Security: The food industry is one of the largest on the planet, and people will always have to eat. This means if you are working anywhere along the food supply chain, you will always have a job.

2. Access To A Diverse Environment: There is something for everyone, whether it be in quality, R&D, sales, marketing, manufacturing, teaching or in government.

3. Increase Your Earning Potential: Studying food technology offers many opportunities to earn a higher income.

4. The Food: If you love food you will definitely enjoy working in the food industry. Whether you are creating exciting new products, testing products for quality, or doing research, you will be exposed to a plethora of amazing food. You will discover dishes and flavor combinations you never knew existed.

5. Travel Opportunities: The food industry is a global one, and many large companies around the globe also conduct business in several other countries. Depending on your position, it's likely you will get to travel, often paid for by your company or agency.

6. Self-Employment Opportunity And Consultancy: Studying food technology provides one with entrepreneurial opportunities, you can start your own food company and even offer consultancy services.

8. This Course on Food Technology is well equipped with tools and references to allow our students to develop skills in new and already existing technologies.

9. Students who takes this course are able to sharpen their key employability skills from managing workloads, working to a fixed deadline, working together as a team and for commercial awareness in the food and dairy industry.

10. The Food processing industry is the largest manufacturing industry in the whole world. Employing over billions of people, so when you study food technology, you have a vast amount of job openings and the opportunities to start your own is never-ending for as long as humans and animals eat.

Food Technology Course Outline

Food Technology - Introduction
Food Technology - Physical properties of food materials
Food Technology - Fluid flow
Food Technology - Heat and mass transfer, basic principles
Food Technology - Reaction kinetics
Food Technology - Elements of process control
Food Technology - Size reduction
Food Technology - Mixing
Food Technology - Filtration
Food Technology - Centrifugation
Food Technology - Membrane processes
Food Technology - Extraction
Food Technology - Adsorption and ion exchange
Food Technology - Distillation
Food Technology - Crystallization and dissolution
Food Technology - Extrusion
Food Technology - Video Lectures
Food Technology - Exams And Certification

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Every Life, Every Moment, Every Day. A New Discovery...

FOREX TRADING COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Forex Trading?

Forex Trading is a decentralized global or over-the-counter market where people trade all the world currencies.

Forex Trading also referred to as **Foreign Exchange or FX or Currency Trading.**

The Forex market is the biggest most liquid market in the world that has an average daily trading volume which exceeds 5 trillion dollars as at 2019. Currencies are important to most people around the world whether they agree to it or not because currencies are needed to be exchanged in order to conduct foreign trades and business.

Forex is a major part of Foreign Currency and Exchange. Foreign Exchange is the process of changing one currency into another currency for a number of reasons, the most popular are for commerce, trading, or tourism.

Forex started since 1973 and has undergone a series of changes yet these changes have made it to become a big, better and accountable forum for transactions.

The Main Contributors in the Forex market are the much bigger international banks and financial institutions. Financial centers around the world act as anchors of trading between a very broad range of different types of buyers and sellers all day, with the exception of weekends. Since currencies are always traded in pairs, the Foreign Exchange or FX market does not set a currency's fixed value, they instead determine its relative value by setting the market price of one currency if paid for with another.

One unique area of this internationally traded market is that there is no central marketplace for foreign exchange. Instead, currency trading is conducted digitally, that is to say, all transactions occur through inter-connected computers between traders who are in the world, instead of having one centralized exchange.

Features And Advantages of Forex Trading

There is now a huge retail interest in Forex Trading and some of the key reasons are explained below:

1. Round the Clock Trading: The Forex market never sleeps. It is always open all round the clock, except for the weekend and Bank holidays. This means that people can trade the market at any time that suits them, even after their regular job.

2. No Risks of Manipulation: No manipulation. The Forex market is so huge, large and liquid that you need have no fears about market twists or manipulation because it is decentralized. The volumes for trading are simply so huge that there is no trading body that is big enough to manipulate the prices in their favor. There is an exception of the central bank at certain times. For all extents and purposes, it is as close as you can get to a perfect market. In localized markets, some local large brokers can easily change the pricing by buying or selling large volumes. Foreign Exchange market which is a huge global market, stops those possibilities until or unless some very large entities like the Central Bank of a large economy interfere to keep the nation's interest in check because of the huge upside or downside or the Currency valuation. Any huge increase or decrease in the currency valuation affects the exports and import pricing respectively.

3. Anybody Can Trade: There are different types of trading accounts available that are fit for everybody. You don’t need to be very rich, or even rich to trade Forex. Accounts range from standard to mini or micro accounts that are easy on the pocket.

4. A Highly Liquid Market: The FXmarket has so many participants and trades such high volumes that you are always assured of your order getting filled.

5. Wide Range of Platforms: Most brokers have various platforms so you could easily pick one that suits you, use a PC or laptop, an iPad or even your mobile phone.

6. You are the Boss to Decide How Much You wish to Invest: In Forex markets you can trade with even as low as 1 dollar. Suit your trade position size. Unlike other markets where you can only trade in pre-determined volumes, you can practically customize your trading unit in the Forex market. Even when markets like stock markets do not have the constraints of lot sizes, even the price of one stock may be higher than what you wish to invest.

7. Low Trading Costs: Most times you would only have to pay the bid-ask spread, which, nowadays is pretty competitive. No other fees apply, for example, commissions for brokerage, exchange and government fees, etc.

8. Leverage Options: It is common in the Forex market for brokers to offer you leveraged trading, which means you only have to put up a small percentage of the value of your trade as a margin. This implies that with careful trading you might be able to make some very nice profits on low investment capital.

9. Freebies: Joining bonuses, demo accounts, specialized charting packages, great research, real-time news flow are some of the free stuff you get in the Forex market.

10. Accessibility: FOREX has a 24 hours 5 days access which makes it easier and better for anyone to make transactions at any time.

11. Transparent: FOREX market is a very transparent market, in other words, there is the accountability of all trades taking place.

12. Enormous Liquidity: FOREX is a very large market having enormous liquidity i.e assets that could be changed into cash.

13. Easy to Start: FOREX is easy to start with a minimum of $300 even less, making it possible for anyone to be involved.

14. Higher Leverage: FOREX provides traders with access to much higher leverage when compared to other financial markets.

Key Players in FX Market

The key players in the forex market are:

1. The Commercial Banks,
2. The Federal Reserves (Fed),
3. The Central Banks etc.

Key Terms in the FX Market

Some of the Terms in Forex include:

1. PIP: PIP is short form for Percentage In Point or Price Interest Point. A pip is the base unit in the price of currency pairs or 0.0001 of the quoted price.

2. Spread: The spread is the difference between a currency pair's bid and ask price. For the most popular currency pairs, the spread is often low-sometimes even lesser than a pipBefore a trade becomes profitable, the value of the currency pair must cross the spread.

3. Margin: Margin is the money in a trader's account.

4. Leverage: Leverage is the capital provided by a forex broker to bolster their client's trading volume.

5. Bulls: means market going up

6. Bears: means market going down

Economic Factors that Affects the FX Market

These are some of the factors to be considered when trading the FX market, they are:

1. Trade Deficits,
2. Industrial Production,
3. Unemployment Rates,
4. Business Inventories,
5. Durable Goods Orders,
6. Inflation,
7. Gross Domestic Product (GDP),
8. Interest Rates Nominal and Real Rate of Interest,
9. Producer Price Index (PPI),
10. Consumer Price Index (CPI),
11. Personal Income,
12. Currency Fluctuation etc.

Advantages of Studying Forex

1. To learn and understand the rudiments of Forex Trading.
2. To gain knowledge on both FX trading strategy and FX market behavior.
3. It helps to be a better fund manager.
4. It helps to create networking opportunities.
5. It offers career advancement for financial professionals.
6. It offers job opportunities in financial and investment firms.

Forex Trading Course Outline

Forex Trading - Introduction
Forex Trading - What is the FX Market
Forex Trading - Why Trade FX Market
Forex Trading - History of the FX Market
Forex Trading - Market Structure
Forex Trading - Key Players in FX Market
Forex Trading - International Overview
Forex Trading - FX Regulations
Forex Trading - Your Role in the FX Market
Forex Trading - How Can Forex be Accessed?
Forex Trading - Video Lectures
Forex Trading - Exams And Certification

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Every Life, Every Moment, Every Day. A New Discovery...

FUNDAMENTALS OF SCIENCE AND TECHNOLOGY

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

Fundamentals of Science and Technology?

Fundamentals of Science and Technology is the study of both Science, Technology and the interactions between both. Science, in general, is defined as the structured enterprise that puts up and organizes knowledge and understanding in the form of explanations and predictions about nature and the universe. Technology, on the other hand, is described as the assembly of methods, techniques or processes that are used in the production of goods or services or in the achievement of purposes, such as scientific and experimental investigations, or any other customer requirements.

Science may stimulate Technological advancement, by producing interest for new devices to address a scientific problem, or by showing technical feasibilities previously unconsidered. Technology, in turn, can inspire scientific research, by bringing up the demand for technological advancements that can only be achieved through research, and by bringing up questions about the underlying systems that a new technology relies on.

For the vast majority of human history, Technological advancements came up by chance, trial, and error, or unintentional inspiration. When the modern scientific project matured in the Enlightenment, it basically involved itself with basic questions about nature. Research and development channeled towards instant technical application is generally a relatively modern phenomenon, starting with the Industrial Revolution and becoming conventional in the 20th century.

The development in the area of Technology creates room for research and improvement in the field of Science. For example, space science is a major part of them. Technological advancement furthermore indirectly spurs basic research in the field of science.

Components of Science and Technology

Below are components of a scientific experiment:

1. Observation And Questions: Observations allow an experimenter to gather and use background information concerning the principles being tested to better predict and understand the forthcoming outcome. The question is the aspect of the observation being tested, what the experiment is trying to answer.

2. Hypothesis: The hypothesis is a prediction of the outcome, which is generally stated in a complete sentence; it uses the observations made before the experiment to make an educated assertion. At the end of the experiment, the researcher will have to use the results to decide if he can accept the hypothesis or reject it. The hypothesis must stand up to questioning during the experiment.

3. Method: The scientific method lists all of the materials used in the experiment in specific detail along with the exact procedures that were taken. It is important that the methods are detailed and accurate so another researcher can repeat the experiment and expect to get similar results.

4. Results: The results of the experiment must be recorded. Scientific researchers must interpret the results they receive, giving explanations for the data gathered, they must also draw a conclusion from the results, he conclusion must decide whether to accept or reject the hypothesis made at the beginning of the experiment. It is often useful to display results with visual aids, such as graphs or charts, to help identify trends and relationships.

Features and Characteristics of Science and Technology

Some Of The Features and Characteristics of Science And Technology:

1. Objectivity: Scientific knowledge is objective. Objectivity here simply means that it has the ability to see and accept facts just the way that they are, not as one might imagine them to be

2. Systematic Exploration: A scientific research follows a certain step by step procedure, an organized plan or design of research for collecting and analysis of facts to be used to solve the problem under study.

3. Reliability: Scientific knowledge gotten through science and technology must occur under the prescribed circumstances not once but repeatedly. It is reproducible under the conditions that are stated anywhere and anytime.

4. Science and Technology are meant to improve outcomes: Whether in the business sector, health, education or whatever industry, Science and Technology don't in itself lead to an outcome but rather, it improves outcomes.

5. Science and Technology is used as an extension of human capability: Science and Technology should never be seen as something that is here to replace human being or the popular myths that technology will take over the jobs done by humans, instead, it should be seen as an extension of human capability.

Benefits of Science and Technology

There are next to an infinite list of the benefits and advantages of Science and Technology which is due to its application in every sector of life and some of them are listed below:

1. Science and Technology have made Life easier and comfortable.
2. Science And Technology have made traveling easier and faster.
3. Communication has become easier, faster and cheaper.
4. The standard of living has increased with an increase in Technology.
5. Humans have become more advanced by using various new technology.
6. Due to the development of Science and Technology impossible has become possible.
7. Life has become easy and stable.

Why Study Fundamentals of Science and Technology?

1. Gain insight into how different processes of knowledge are initiated and progressed.

2. Understand how innovative technological processes are developed, employed and increase in importance.

3. Career Opportunites And Advancement

4. Range of disciplines

5. Research And Scholarly Advancements

6. Developing the ability to ask questions, collect information, organize and test ideas, solve problems, and apply learning.

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GENETIC ALGORITHMS COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Genetic Algorithms

Genetic Algorithms are search-based techniques that are directly based on principles of genetics and evolutionary computations.

Genetic Algorithms are used to optimize genetics and natural selection.

Genetic Algorithm is particularly based on optimization. Optimization is the process of improving on something for better performance.

Advantages of Genetic Algorithms

The benefits are numerous, some of which are:

1. Genetic Algorithms does not require any mathematical assumption that may not be applicable or available for many real-world problem.

2. Genetic Algorithms are not restricted to continuous or discrete function, but rather optimize both and multi-objective problems.

3. Genetic Algorithms provide pool of possible solutions to a given problem.

4. They are faster and more efficient compared to other traditional techniques.

5. Genetic Algorithms provide solutions that always get better over time.

Features of Genetic Algorithms

The features are numerous, some of which are:

1. Genetic Algorithm is particularly based on optimization. Optimization is the process of improving on something.

2. Genetic Algorithms are search-based techniques that optimizes genetics and evolutionary computations.

3. Genetic Algorithms provides a pool of possible solutions to given problems.

4. Genetic Algorithms are of huge advantages to genetics and evolutionary computations, because they do not require derivative information or require complicated mathematical assumptions that may not be applicable or available for many real-world problems.

5. They are faster and efficient compared to traditional methods, they are not restricted to continuous or discrete functions, but rather optimizes both and multi-objective problems.

6. The solutions provided using Genetic Algorithms always get better over time.

7. Genetic Algorithms like other techniques face limitations such as cost implications as the value (fitness value) is calculated repeatedly thereby making the computation expensive.

Genetic Algorithms Terminologies

To have a clear understanding of Genetic Algorithms, it is imperative to know the following terminologies:

Population: A subset of all encoded solutions to the given problem.

Chromosome: A section of the solution to a given problem.

Gene: A unit of the section of the solution (chromosome). In other word, one element position of a chromosome.

Allele: The specific value of the unit of a chromosome.

Genotype: The population in the computation space.

Phenotype: The population in the actual real-world solution space in which solutions are represented in the way they are represented in real world situations.

Fitness Function: A function responsible for processing the solution as input and producing the suitability of the solution as output.

Genetic Operators: These are operators that alter the genetic composition of the offspring.

Representations in Genetic Algorithms

Genetic Algorithm has the basic structure which start from the initial population through the fitness function calculations and the genetic operators to the termination and permutation representation.

It is important to make right decision while implementing Genetic Algorithms of the representations that will suit the problem best. Some of the representations commonly used are:

1. Binary representation,
2. Real value representation,
3. Integer representation and
4. Permutation representation.

Parent Selection in Genetic Algorithms

Parent Selection is another important aspect in Genetic Algorithm.

Parent selection is the process of choosing or selecting parents which mate and recombine to create progeny with the desired characteristics or traits. While selecting parent, it is important to know that maintaining good diversity is very crucial for the success of a Genetic Algorithm.

Parent Selection Methods

Ways of selecting parent include:

1. Fitness Proportionate Selection,
2. Tournament Selection,
3. Rank Selection and
4. Random Selection.

In the Full Course, you will learn everything you need to know about **Genetic Algorithm** with **Certification** to showcase your knowledge.

Genetic Algorithms Course Outline

Genetic Algorithms - Introduction
Genetic Algorithms - Fundamentals
Genetic Algorithms - Genotype Representation
Genetic Algorithms - Population
Genetic Algorithms - Fitness Function
Genetic Algorithms - Parent Selection
Genetic Algorithms - Crossover
Genetic Algorithms - Mutation
Genetic Algorithms - Survivor Selection
Genetic Algorithms - Termination Condition
Genetic Algorithms - Models Of Lifetime Adaptation
Genetic Algorithms - Effective Implementation
Genetic Algorithms - Advanced Topics
Genetic Algorithms - Application Areas
Genetic Algorithms - Video Lectures
Genetic Algorithms - Exams and Certification

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GIT BASICS COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Git?

Git is a distributed version-control system use for discovering and tracking changes in any set of any files, designed for coordinating, restructuring work among programmers cooperating on source code during software development.

Git aim and goals include:
Data integrity,
Speed,
Security, and
Support for distributed and non-linear workflows

Git is also rated as one of the most widely used modern version control system in the world today.

Git helps in keeping track of changes or corrections made to a code. If at any point during times you are coding and you hit a fatal error and then you don't know what's causing it, Git allows and gives you the privilege for you to revert back to a stable state.

Git also helps you to see whatever changes have been done to the code over time.

Features and Benefits of Git

These are some basic and very important features of Git:

1. Distributed System:
Distributed systems are those which allow the users to be able to perform work on a project from where ever they are all over the world.

The distributed system holds a central repository that can also be accessed by many remote collaborators simply by using a Version Control System.

Git is known as one of the most popular Versions Control System that is being used in this days. You having a Central Server outcome in a problem of Data disconnectivity or Data Loss in case of any system failure of the central server.

To tackle or defeat such kind of a situation, Git mirrors the whole of the repository on each and every snapshot of the version that is being pulled or carried by the user. In this case, if peradventure the central server crashes, then the copy of repositories can be granted but back from the users who have downloaded the latest snapshot of that project.

2. Compatibility:
Git is always compatible with all the Operating Systems that are used in these days.

Git accesses the repositories of other of the Version Control Systems like SVN, CVK, etc. It is very possible that Git can directly access the remote repositories created by these SVNs.

3. Non-linear Development:
Git allows users from any part of the world to carry out operations on a project remotely.

4. Branching:
Git permits its users to work on line that runs on parallel to the main project files. The lines are called branches.

5. Lightweight:
Git works as a storage of data,it stores all the data from the central repository on to the local repository while cloning or copying is done.

There might be more than a hundred of users working the same project and therefore the data in the central repository might be very large.

6. Speed:
Since Git is a storage of all the data related to a project in the local repository by the process of cloning or copying, it is very much important to get data from the local repository instead of you doing the same from the remote repository.

7. Secure:
Git is also a keeper of record of all the commits done by each of the collaborators on the local copy of the developer. A log file is kept safe and maintained and is pushed to the central repository each time the push operation is carried out. So, if any problem arises then it can be easily tracked, found and handled by the developer.

Why Study Git?

1. History tracking
2. Security. Git is designed specially with security consciousness also to maintain the integrity of source code.
3. Flexibility.
4. Wide acceptance.
5. Quality open source project.
6. Increase your earning potential.
7. Job opportunities and career advancement.

Git Course Outline

Git - Introduction
Git - Basic Concepts
Git - Environment Setup
Git - Life Cycle
Git - Create Operation
Git - Clone Operation
Git - Perform Changes
Git - Review Changes
Git - Commit Changes
Git - Push Operation
Git - Update Operation
Git - Stash Operation
Git - Move Operation
Git - Rename Operation
Git - Delete Operation
Git - Fix Mistakes
Git - Tag Operation
Git - Patch Operation
Git - Managing Branches
Git - Handling Conflicts
Git - Different Platforms
Git - Online Repositories
Git - Video Lectures
Git - Exams and Certification

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GRAPH THEORY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Graph Theory?

Graph Theory is the study of graphs that are concerned with the relationship between edges and vertices. It is a popular subject that has its applications in computer science, biosciences, information technology, mathematics and linguistics to mention but a few.

A Graph is a pictorial representation of a set of objects in which some pairs of objects are joined together by links. The linked objects are represented by points referred to as vertices, and the links that connect the vertices are termed edges.

In Computer Science, Graphs are mostly used to represent various networks of communication, the flow of computation, data organization, computational devices, etc. For example, the links of a website can be represented by a directed graph, where the vertices are used to represent web pages and the directed edges represent the links from one page to another.

Graph Theory approach can be employed to solve problems in social media, biology, travel, mapping the progression of neurodegenerative diseases, computer chip design, and a large number of other fields. The development of algorithms to manage graphs is therefore of significant interest in the study of computer science.

The Transformation of Graphs is frequently formalized and described by graph rewrite systems. Equivalent to graph transformation systems that are focusing on rule-based in-memory manipulation of graphs are graph databases that are geared towards transaction-safe, querying of graph-structured data and persistent storing.

A Graph Structure can be stretched and extended by assigning a weight to the edge of each of the graphs. Weighted graphs or graphs with weight, are applied to represent structures in which pairwise connections and links have some numerical values. Take, for example, if a Graph represents a road network, the weights could describe the length of each road. There may be several weights that are associated with each edge, which includes distance as seen in the previous example, Time of travel, or monetary cost. Such weighted graphs are mostly used to program GPS's, and search engines for travel-planning that compare flight times, hours and costs.

Features of Graph Theory

There are many Features of Graph Theory and some of them are:

1. Vertex: A vertex or node v is simply a terminal point or a point of intersection on a graph. A vertex is the abstraction of Individual locations, for example, an administrative division, a city, an intersection on a road or a transport terminal, for example, stations, harbors, terminals, and airports.

2. Edge (Link): An edge is a connection between two nodes. A link is the reflection of a transport infrastructure that supports the movements between nodes. It has a direction that is generally represented on a graph as an arrow. Wherever an arrow is not used, it is considered that the link is bi-directional.

3. Sub-Graph: A sub-graph is a subset of a graph. Unless the general transport system is viewed in its whole, every transport network is, in theory, simply a sub-graph of another graph. For example, the road transportation network of a city is a sub-graph of a regional transportation network, which is on its own, a sub-graph of a national transportation network.

4. Simple graph: A simple graph is one that includes only one kind of link between its nodes. A road or terminal network is an example of a simple graph.

Benefits of Graph Theory

There are lots of benefits of Graph Theory, some of them are:

1. Graph Theory is very beneficial in Software engineering.
2. Graph Theory is used in Networking.
3. Graph Theory is fundamental in Data mining.
4. Graph Theory is employed in Operating system design.
5. Graph Theory is used Website designing to link websites and webpages.

Why Study Graph Theory?

1. It is elegant and it provides a framework to model a large set of problems in Computer Science.
2. It has natural connections to Combinatorics, Topology & Algebra.
3. It is essential for Data Science.
4. Job Opportunity and Career Advancement.

Graph Theory Course Outline

Graph Theory - Home
Graph Theory - Introduction
Graph Theory - Fundamentals
Graph Theory - Basic Properties
Graph Theory - Types Of Graphs
Graph Theory - Trees
Graph Theory - Connectivity
Graph Theory - Coverings
Graph Theory - Matchings
Graph Theory - Independent Sets
Graph Theory - Coloring
Graph Theory - Isomorphism
Graph Theory - Traversability
Graph Theory - Video Lectures
Graph Theory - Exams and Certification

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Every Life, Every Moment, Every Day. A New Discovery...

GRAPHIC DESIGN COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Graphic Design?

Graphic Design is an art of combining images and texts in creative patterns and layouts that has a special meaning or message to the viewers or audience.

Graphic Designers are individuals who take up graphic designing as a career. They are in the business of creating and combining symbols, images, and text to form visual representations of ideas and messages.

The origins of Graphic Design can be traced to the beginning of human existence, starting from The Caves of Lascaux, to The Rome's Trajan's Column, to The Manuscripts of the Middle Ages, to The Neon Lights of Ginza, in Tokyo. The word "Graphic Design" was formed by William Addison Dwiggins in the year 1922.

Types of Graphic Design

1. Corporate Design (logos, brochures, business cards, and business branding),

2. Editorial Design (magazines, newspapers, and books),

3. Wayfinding or Environmental Design, (street boards and road signs),

4. Advertising (banners, billboards, and flyers),

5. Web Graphics (e-flyers, e-banners, e-buttons),

6. Communication Design (billboards, newsboards),

7. Product Packaging (stickers, sachets, and flyers),

8. Signages,

9. 3D Graphics (for movies and animation).

Advantages of Graphic Design

1. Graphic design helps to strengthen the business brand.
2. Graphic design helps a business become attractive to customers.
3. Graphic design helps to portray some essential information about a business, brand, product or event.
4. It helps to build trust and loyalty between the business owner and customers.
5. It expresses creativity and art.
6. It helps to gain a huge client base.
7. Graphic design is easy to get started.
8. Graphic design requires low capital in terms of venturing and investment.
9. It helps to communicate our thoughts and ideas clearly.
10. It is used in project management to communicate project plans and prototypes.

Advantages of Studying Graphic Design

1. It serves as a source of self-employment.
2. It provides job opportunities.
3. It develops one's ability to think in a creative way.
4. It helps to translate our thoughts into a clear message.
5. It helps to brand your own start-up or business.

Basic Graphic Design Tools

The basic graphic design tools that anyone can handpick and start designing depending on what you want to achieve with your designs are as follows:

1. CorelDraw Graphics Suites:
(a) CorelDraw,
(b) Corel PhotoPaint, etc.

2. Adobe Creative Suites:
(a) Adobe Photoshop,
(b) Adobe Illustrator,
(c) Adobe InDesign,
(d) Adobe Fireworks,
(e) Adobe ImageReady,
(f) Adobe Lightroom, etc.

3. Others are:
(a) Sketch
(b) GIMP
(c) Inkscape
(d) Figma
(e) Cinema 3D
(f) Cinema 4D
(g) Poser 3D

Career Opportunities in Graphic Design

An increasing number of companies are bringing up the need for graphic design professionals. If you are in the look for career opportunities that are available in this field, they are large, and some of them are listed below.

1. You get a lot of job opportunities if you study graphic design.
2. You can become a graphic design specialist in an organization.
3. After taking this certification course in the graphic design module, you can become a graphic designer.
4. You can become a graphic design consultant.
5. You can become a graphic design consultant, either freelancing or in an organization.
6. You can become an advisory consultant.
7. You can become a graphic design expert, after finishing this module and getting certified.
8. You can become a graphic design consultant for an organization.
9. You can become a team leader in any organization and be responsible for managing a graphic design team.
10. You can become a graphic design trainer.
11. You can become a lead graphic designer commanding high pay.

In the Full Course, you will learn everything you need to know about **Graphic Design** with **Certificate** to showcase your knowledge.

Graphic Design Course Outline

1. Introduction to Graphic Design

The Principles of Great Graphic DesignVisible vs. Invisible Design
Designing Mobile User Experiences
Sketching, Wireframing, and Prototyping
Red Flags (Warning Signs) in Web Development
The Future of Web Typography
Applying Game Design Principles to User Experience Design
Psychology of Web Design and User Behavior
Design Patterns in e-Commerce Websites

2. Graphic Design Practice

CorelDraw Graphics Training
Adobe Photoshop Training

3. Graphic Design Exams and Certification

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GSM ENGINEERING COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is GSM Engineering?

GSM Engineering refers to the art of designing, building, installing and maintaining GSM mobile phones and networks using a very precise and detailed understanding of mobile phone technology.

A GSM Engineer is someone who is responsible for building, developing and maintaining an industry-standard GSM Networks and Devices.

A GSM Engineer or GSM Technician is also an individual who fixes GSM Mobile Phones.

GSM is the acronym of the Global System for Mobile Communication, and it is a digital portable network that is popularly used by phone users all over the world. It is a Digital Cellular Technology used widely for transmitting mobile voice and data services.

GSM uses a slight difference in a Time Division Multiple Access (TDMA) and it is the most widely used of the three digital wireless telephone transmission technologies which are:
TDMA,
GSM, and
Code Division And Multiple Access
(CDMA).

GSM converts data to a digital form, compresses the data, then sends the data through a channel along with two different streams of user data, each in its own set time. The digital system has the ability to carry from 64 Kbps to 120 Mbps of data rates. GSM operates at either 900 Megahertz (MHz) or 1800 MHZ frequency band, while the word Engineering in GSM refers to the job of designing, building, installing, repairing and maintaining GSM Mobile Phones and Network.

Features of GSM Mobile Phones

A GSM Phone is made up of the following components:

Battery: A battery that provides power source for the phone.

Input Mechanism: An input system to provides interface for the user to interact with the phone such as the Keypad, Touch screens etc.

Output Mechanism: The output system that runs the actual functions and services of the phones such as phone calls, text messages, internet access etc.

Display Screen: This is the visual screen that shows input and output activity of the phone.

SIM Card: SIM Cards (Subscriber Identity Module) provides users with connection identity and allows account and information to be stored and swapped among devices.

Features Of GSM Network

A GSM Network is made up of the following components:

1. A Mobile Station: This refers to the mobile device which has the network receiver, the processor and the display and it is controlled by a subscriber identification module (SIM) card operating over the network.

2. Network Subsystem: It provides the fundamental network connection to the network stations. The basic parts of this network Subsystems are the mobile service switching center that allows access to the different networks available like ISDN, PSTN, etc. It is also made up of the home location register and the visitor location register which gives the call the routing and roaming abilities of a GSM network it also contains the equipment Identity Registrar that maintains an account of all the mobile equipment of which each mobile is uniquely identified by its own IMEI number. IMEI represents the International Mobile Equipment Identity.

3. Base Station Subsystem: The Base station subsystem acts as a link between the mobile station and the network subsystem. It is made up of the Base Transceiver station that contains the radio transceivers and manages the protocols for communication with mobile devices. it also consists of the base station controller which commands the base transceiver station and acts as a link between the mobile station and the mobile switching center.

Features Of A GSM Module

Below are some of the features of a GSM module:

1. International roaming
2. Support for new services
3. Improved Spectrum efficiency
4. Compatibility with services integrated in the digital network
5. Real-time clock with alarm management
6. Fixed Dialing number
7. High-quality speech
8. Short message service (SMS)
9. Uses encryption to make phone calls more secure

Benefits Of GSM

Below are some of the advantages of GSM:

1. Extensive Coverage
2. Greater Phone Variety
3. No Roaming Charges on International Calls
4. Easy Communication
5. Offers Both Data and Voice Communication

Advantages of Studying GSM Engineering

Studying GSM Engineering has a lot of benefits, for example:

1. It makes us understand and know about the underlying workings of GSM Devices and Network
2. We can build, manage, modify an existing network of mobile devices.
3. It provides job opportunities for engineers.
4. It offers self-employment opportunity.
5. It boosts your career as a phone engineer.

In The Full Course, you will learn everything you need to know about **GSM Engineering** with **Certificate** to showcase your knowledge and competence.

GSM Engineering Course Outline

GSM Engineering - Introduction/Overview
GSM Engineering - Architecture
GSM Engineering - Specification
GSM Engineering - Addressing
GSM Engineering - Operations
GSM Engineering - Protocol Stack
GSM Engineering - User Services
GSM Engineering - Security
GSM Engineering - Billing
GSM Engineering - Mobile Phones
GSM Engineering - Basic Phone Repairs
GSM Engineering - Smart Phone Repairs
GSM Engineering - Video Lectures
GSM Engineering - Exams and Certification

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HEALTH MANAGEMENT INFORMATION SYSTEM COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Health Information Management?

Health Information Management (HIM): is the application of information management to health care system towards providing quality health care in hospitals and medical institutions.

The introduction of technology and widespread computerization in the health care system for record-keeping has replaced the traditional (paper-based) records with the use of Electronic Health Records (EHR) such as Medical Record Systems and Electronic Medical Systems or software.

What is Health Management Information System?

Health Management Information System (HMIS): is simply the use of EHR - Electronic Health Records Systems or Softwares to manage patient records towards providing quality and personalized health care.

HMIS's standards history can be traced back to 1928 when the American Health Information Management Association was introduced. Also at the time, the American College of Surgeons established the - (ARLNA) Association of Record Librarians of North America to elevate the standards of clinical records in hospitals and other medical institutions.

Components Of Health Management Information System?

There are six key components of the Health Information Management System. They include:

1. Health information system resources
2. Indicators
3. Data sources
4. Data management
5. Information products and lastly,
6. Dissemination and use of the information.

These components can be broadly divided into three broad categories namely; inputs, outputs, and processes.

1. Inputs: These comprise all the physical and structural pre-requisites and resources needed to put up a good health information system. It mainly involves a legislative, regulatory and planning framework (rules and policies) as well as personnel (skills and capabilities), financing, logistic support (e.g. office supplies), IT and communication systems (e.g. computers). Every country's HIMS needs to be designed to utilize the available resources in the best way possible to meet the country's health needs.

2. Processes: These include data management, indicators, and data sources. Data management is aimed at enabling data to be collected to be stored, compiled, analyzed and processed easily. It allows easy access to relevant information to those who need it while maintaining the privacy and confidentiality of the stored information. There are two types of data management; minimum dataset and integrated data repository. A minimum dataset simplifies data collection and improves the quality of data collected. An integrated data repository combines data from various sources and helps in the collection, management, and distribution of the data. Indicators refer to measurable sets of data that help to monitor the system's effectiveness by quantifying change that has taken place in a country's health profile over time. These determinants should be valid, reliable, sensitive, specific and feasible. Data sources refer to both periodic and continual sources that provide quality information for the information system. A strong HIMS also requires data to be gathered from a variety of sources. In health systems this may include; patient's medical records, service records, resource records and so forth.

3. Outputs: When considered together with input indicators, they can provide some measures of productivity or efficiency in health care delivery. Health output indicators provide information on the quantity of goods and services provided by health care systems.

Features and Benefits of Health Management Information System

1. HMIS helps to improve the functions and efficiency of the health sector.

2. HMIS is essential for easy communication of patient's information among health workers.

3. HMIS is essential for easy processing and follow up of patient's health information.

4. HMIS helps to prevent loss of health information through backups.

5. HMIS helps to capture adequate health information as needed by organizations.

6. HMIS helps to reduce the divulgence of patient's information to unauthorized persons through the use of passwords.

7. HMIS guarantees quick patients information retrieval as when needed.

8. HMIS - Health Management Information System is a unique course that studies the management of health information of a patient through EHR - Electronic Health Records to better understand the history and status of the patient in order to provide quality and personalized health care.

9. There are lots of EHR Softwares and Applications used in keeping Medical Records. They are grouped under these categories:

   a. Open-Source software which is known as Free or Freemium Softwares which is free to use.

   b. Privately Owned software which is known as Paid or Premium Softwares which requires some form of payment or charges to use them.

10. The Free and Basic EHR software that applies to the Health Management Information System is EMR - Electronic Medical Record and MRS - Medical Record System. They are designed to adequately manage patient records and reports and to evaluate it in order for Doctors and Health Workers to understand the health history and status of patients per time.

Why Study Health Management Information?

Becoming an HMIS manager enables you:

1. Protect Patients' information and maintain high-quality information about peoples' health status.

2. Enable Hospitals to receive appropriate funding in order to function and treat their patients adequately.

3. Increase Your Earning Potential.

4. Job Opportunities and Career Advancement.

The Full course will take you on everything you need to know about HMIS - Health Management Information System from Introduction, History, Policies, Standards, etc. up to using the Basic Softwares required for keeping records and reports. You will be a competent HMIS Professional with Certificate to showcase your competence.

Duration: Study At Your Own Pace.

Health Management Information System Course Outline

Health Management Information Systems - A Managerial Perspective
Health Management Information Systems - Executives
Health Management Information Systems - Online Health Information Seeking
Health Management Information Systems - Enterprise Software
Health Management Information Systems - Community Health Information Networks
Health Management Information Systems - Trending toward Patient-Centric Management Systems
Health Management Information Systems - Integration
Health Management Information Systems - Planning/Information Requirements
Health Management Information Systems - Analysis and Developmental Methodologies
Health Management Information Systems - Data Stewardship
Health Management Information Systems - Projects
Health Management Information Systems - Standards
Health Management Information Systems - Governance, Policy, and International Perspectives
Health Management Information Systems - Innovation
Health Management Information Systems - Open MRS Software Practice
Health Management Information Systems - Open EMR Software Practice
Health Management Information Systems - Exams and Certification

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HOLOGRAPHY TECHNOLOGY COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What is Holography Technology?

Holography is the science and techniques involved in the making of holograms.

Hologram is a physical structure that makes use of various diffraction of light to make an image, the produced image can emerge as a three-dimensional object.

Hologram is a detailed and photogenic recording of a captured light field, rather than an image that is produced by a device without a lens.

Holographic data storage is a high data storage capacity technology that enables data storage by creating holographic images of each data instance on a supported medium. It is based on the similar concept of optical storage devices but it enables the use of a single storage volume to store large amounts of data.

Components of Holography

Here are the basic components that are needed to construct an HDSS:

1. Blue-green argon laser
2. Mirrors to direct the laser beams
3. LCD panel (spatial light modulator)
4. Lenses to focus the laser beams
5. Beam splitters to split the laser beam
6. Lithium-niobate crystal or photopolymer
7. Charge-coupled device (CCD) camera

Features of Holography Technology

There are many features of Holography Technology and some of them are:

1. 2D: This type of hologram is based on a graphic image, on which all the elements are recorded on to one optical level. Microstructures and Gratings produce a higher high diffraction efficiency, more brilliant colors and more advanced dynamic effects.

2. 2D/3D: When compared to the 2D hologram, in which all the optical information is saved on one level, the graphical elements that belong to a 2D/3D hologram are isolated from each other and stored on several different, and more superimposed layers, implementing a sense of optical depth (known as the parallax effect). Various combinations with three-dimensional objects in the background are also made possible in this type of hologram.

3. 3D/2D: This hologram joins together a 2D hologram with a 3D hologram, the 2D component being run in the background. The 3D component displays the original object on the foreground either as in a true scale or simply as a stereogram, the 2D component is always used from a graphic image.

4. Black and White Switch: A novel optical effect that is made up of an achromatic 3D hologram changing in different areas among black and white when turning the hologram to 90 degrees. This is frequently used as a special security feature in a hologram to make it hard to imitate and easy to check.

5. Key and Lock System: Special digital watermarking, that is based on lines or on other graphical elements, which is made up of hidden information can be revealed with special screens.

How Holography Works

Holography is a digital encoding of the field of light as a pattern of interference of several variations in the density, opacity, or surface profile of the photographic medium. When it is suitably lit, the interference pattern diffracts the light into a more accurate reproduction of the original field of light and the objects that were in it display visual depth tips such as perspective and parallax that change realistically with the relative position or viewpoint of the observer. That is, the view of the image from several different angles represents the subject when viewed from angles.

When the blue-green argon laser is fired, a beam splitter creates two beams. One beam, called the object or signal beam, will go straight, bounce off one mirror and travel through a spatial-light modulator (SLM). An SLM is a liquid crystal display (LCD) that shows pages of raw binary data as clear and dark boxes. The information from the page of binary code is carried by the signal beam around to the light-sensitive lithium-niobate crystal. Some systems use a photopolymer in place of the crystal. A second beam, called the reference beam, shoots out the side of the beam splitter and takes a separate path to the crystal. When the two beams meet, the interference pattern that is created stores the data carried by the signal beam in a specific area in the crystal -- the data is stored as a hologram. Other applications of holography such as personal holography are still underway.

Benefits of Holography Technology

There are many benefits of Holography Technology and some of them are:

1. Cost-Effective: Holography technology equipments are very cost-effective and provide more advantages than its price.

2. Storage Capacity: Holography technology applications have a much higher storage capacity

3. Object Feasibility: Holography technology applications have increased the feasibility of objects.

4. Imaging: Holography technology enables the achievement of several images on a single plate and 3D objects or images.

5. Compatibility: Holography technology equipment has the ability to be combined with other technologies to increase its functions.

6. High Precision Measurements: Holography is a very effective instrument for carrying out very high precision measurements. When an object is illuminated, the pattern of light beams that appears after passing it, and which can be picked up on a photographic plate, is unique, like a fingerprint. To see if there has been any kind of change in an object, it is possible to capture that pattern (called the wavefront) at different times and compare them.

7. Great Accuracy: Holography makes it possible to determine with great accuracy, if any deformations have occurred on any object, even if the changes are as small as the wavelength of the light used.

8. Difficult to Falsify: Holograms are very difficult to falsify because it is almost impossible to get the same wavefront from something, if it is not part of the same object and if the whole process used to make the hologram is also not the same.

9. Security: The hologram is applied in security, such as the small holograms that appear on banknotes and certificates, making them hard to falsify.

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HTTP COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What Is HTTP?

HTTP which stands for **HyperText Transfer Protocol** is the set of rules that governs the internet for transferring digital files, such as text, images, graphics, video, sounds, and other multimedia files, on the **World Wide Web.** As soon as an internet user opens up their Web Browser, they are indirectly making use of the HTTP protocol. HTTP is an application software protocol that runs on top of the TCP/IP suite of protocols which is the fundamental protocols for the Internet.

As the Hypertext part in HTTP suggests, HTTP concepts include the idea that digital files can contain references and links to other files whose selection will bring about additional transfer requests. In addition to the Web page files, HTTP can serve, any Web server machine contains an HTTP daemon which is a program that is developed to wait for HTTP requests and handle them when they arrive.

A Web browser is simply an HTTP client that sends requests for files to server machines. When a user opens a browser window and enters a request for a file by either "opening" a Web file (entering in a URL) or by clicking on a hypertext link, the browser then generates an HTTP request and sends it to the Internet Protocol address (IP address) that is indicated by the URL. The HTTP daemon in the receiving server machine accepts the request and sends back the appropriate requested file or files that are associated with the request. As a note, a Web page is often made up of more than one file.

HTTP is called a stateless protocol simply because every individual command is carried out independently, without any knowledge of the previous commands that came before it. This is the main reason that it is difficult to build Web sites that react very intelligently to user input. This limitation of HTTP is being solved in a number of new technologies, including Java, ActiveX, JavaScript, and cookies.

Features Of HTTP

There are three primary features that make HTTP a simple yet very powerful protocol:

1. HTTP is connectionless: An HTTP client, for example, a web browser, starts an HTTP request and after the request is sent, the browser which is the client waits for the response. The web server processes the request and sends back a response after which the client disconnects the connection. So the client and the server knows about each other during the present request and response only. Additional requests are made on a new connection as if the clients and the server are new to each other.

2. HTTP is media independent: This simply means that any kind of data can be transferred through HTTP as long as the client and the server knows how to handle the content of the data. It is required for the client as well as the server to define the data content type using the appropriate MIME-type.

3. HTTP is stateless: As stated above, HTTP is void of connections and it is a straight result of HTTP being a stateless protocol. The server and client only know of each other during an ongoing request after then, both of them would forget about each other. Due to this nature of the web protocol, neither the client nor the browser can preserve information between different requests across the different web pages.

How HTTP Works?

HTTP means HyperText Transfer Protocol. HTTP is the underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted. It is the foundation of any data exchange on the Web and it is a client-server protocol, which means requests are initiated by the recipient, usually the Web browser.

HTTP clients generally use Transmission Control Protocol (TCP) connections to communicate with servers.

HTTP utilizes specific request methods in order to perform various tasks such as:

GET requests a specific resource in its entirety,
HEAD requests a specific resource without the body content,
POST adds content, messages, or data to a new page under an existing web resource,
PUT directly modifies an existing web resource or creates a new URI if need be.
DELETE gets rid of a specified resource.
TRACE shows users any changes or additions made to a web resource.
OPTIONS shows users that HTTP methods are available for a specific URL.
CONNECT converts the request connection to a transparent TCP/IP tunnel.
PATCH partially modifies a web resource.

All HTTP servers use the GET and HEAD methods, but not all support the rest of these request methods. A correctly composed HTTP request comprises HTTP headers, a message body, and a request line. The request line is the first line in the request message, and it comprises of a method(GET, POST, PUT, PATCH, DELETE), the path of the resource and the HTTP version number, showing the HTTP specification to which the client has tried to make the message comply.

Benefits Of HTTP

Some of the benefits of HTTP include:

1. HTTPS: If you use HTTP(S), then you can make use of existing browsers and high-quality HTTP clients to debug, test, and use your web applications.

2. Caching infrastructure: HTTP heavily depends on and takes advantage of a caching infrastructure that is used worldwide, local browser cache, org caches found in HTTP proxies, reverse proxies, ISP caches, etc. If you use HTTP(S) you can instantly take advantage of this infrastructure.

3. Compression: HTTP supports data compression by making use of different algorithms if you use HTTP(S) you don't need to implement your own compression algorithm.

4. Added Security: If you make use of HTTPS you can leverage the advantage of all the security features that are provided by HTTPS.

5. Tools: There is a large number of tools that are built around HTTP(S) that are at your disposal if you use HTTP protocols.

Why Study HTTP?

1. Understand how the web works including how cookies, sessions, csrf all combine to make the web secure.

2. Career Opportunity And Advancement

3. Increase Your Earning Potential

4. Build Secure and Trusted Websites

HTTP Course Outline

HTTP - Introduction
HTTP - Overview
HTTP - Parameters
HTTP - Messages
HTTP - Requests
HTTP - Responses
HTTP - Methods
HTTP - Status Codes
HTTP - Header Fields
HTTP - Caching
HTTP - URL Encoding
HTTP - Course And Certification
HTTP - Security
HTTP - Message Examples
HTTP - Video Lectures
HTTP - Exams and Certifications

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HUMAN COMPUTER INTERFACE COURSE

DURATION: 2 WEEKS
FORMAT: WEB/PDF PLUS VIDEO LECTURERS

CERTIFICATE OF COMPLETION

What Is Human Computer Interface?

Human-Computer Interface or Interaction (HCI) is a multi-disciplinary field of study concentrating on the design of computer technology and, essentially on the interaction between humans (which is the users) and computers. While being primarily concerned with computers. The field of Human Computer Interface has since expanded to cover almost all kinds of information technology (IT) design.

Human Computer Interface was known in the past as the studies of man and machine or the study of the interaction between man and machine. It deals with the design, execution, and assessment of computer systems and its related events and cases that are for human use. It is basically a study of how human beings relate to computers and also do what computers are not supposed or supposed to do for successful interaction with human beings.

Human Computer Interface can be used in all disciplines and fields wherever there is a likelihood of a computer being installed on. Human Computer Interface, when applied in the field of Computer Science, is used for application design and engineering. In the field of psychology, it is used for the application of theories and analytical purposes, in the field of sociology, it is used for the interaction between technology and organization, finally, it is applied in the field of industrial design for the developments of interactive products such as mobile phones, smart fridge, etc.

One important HCI factor is that various users from different conceptions or mental models about their relationships/interactions and various ways of learning and keeping knowledge and skills. In addition, cultural and national differences partake in it too. Another factor in studying or designing **HCI** is that user interfaces technology changes very fast, giving new interaction possibilities to which previous research results may not apply. Finally, user preferences can change as they slowly master new interfaces.

To fully understand the interaction between humans and computers it is quite important to understand the power and hindrances of humans and the strengths and limitations of computers. Producing computer systems that are usable, efficient, and enjoyable to use actually means that system designers have to think very much beyond merely what capabilities and functions the system should possess. They also need to consider and understand the interaction that happens between users and the computer system. HCI draws from several fields to get insight and knowledge into both humans and computers.

The present leading organization in the world in Human Communication Interface is **ACM − SIGCHI,** and this stands for the **Association for Computer Machinery − Special Interest Group on Computer-Human Interaction.** SIGCHI describes the study of Computer Science to be the core discipline of Human Computer Interactions.

The Rise of Human Computer Interface

HCI came about in 1980s with the advent of personal computers, like machines such as the Apple Mac, IBM PC 5150 showing up in homes and offices in really impressive numbers. For the first-time, intelligent electronic systems were available to general consumers for uses such as word processing, games units, and accounting aids. As computers were no longer large or the sophisticated and expensive tool exclusively built for experts in specialized environments, the need to create human-computer interactions or connections that were also easy, efficient for less experienced users started becoming important. From its origination, HCL will expand to join multiple fields such as computer science, cognitive science, and human factors engineering.

Features Of Human Computer Interface

There are four basic features of Human Computer Interface and they are:

1. Command Line Interface: The Command-line interface (CLI) is a text-based Human Computer Interface that is used to manage and operate software and operating systems while letting the user react to visual prompts by typing in single commands into the interface and getting back a reply in the same way. A CLI allows its user to execute specific tasks by entering commands. Its working model is very easy, but it does not have a user-friendly interface.

2. Menu Driven Interface: This type of interface allows you to interact with a computer or an electronic device by working your way through a series of screens or menus. For example, your iPod or mobile phone both use a menu-driven interface. You are first presented with a menu, then you make a choice and then the next menu appears on the screen.

3. Graphical User Interface: A graphical user interface (GUI) is a computer interface with which a user interacts with electronic devices such as computers, hand-held devices, and other appliances. This interface makes use of icons, menus, and other visual indicators or graphical representations to show information and related user controls, not like in text-based interfaces, where the data and commands are entered and displayed just in text. GUI representations are managed by a pointing device such as a mouse, stylus, trackball or a human finger on a touch screen device.

4. Natural Language Interface: Natural-language user interface (LUI or NLUI) is a kind of computer to human interface where linguistic happenings such as phrases, verbs, and clauses act as UI controls for creating, selecting and editing data in software applications.

5. Touch Sensitive Interface: This more widely known as touchscreens, touch-sensitive interfaces are quite popular and they are used extensively in mobile devices. Commands are given and the data is inputted via a finger or a stylus pen. Also tapping over actions with the finger are recognized by touch sensitve interfaces, such as pinching and swiping.

Benefits And Advantages Of Human Computer Interface

There are a lot of benefits and advantages of Human Computer Interface and some of them are:

1. HCI allows you to interact with the computer system.

2. HCI brings about productivity.

3. HCI brings about collaboration.

4. HCI lets you see errors from your inputs on the computer.

5. HCI improves our daily lives and makes doing things easier for us

6. HCI caters for people with disabilities by improving accessibility.

7. Good use of HCI principles and techniques is not only important for the end-user, but also is a very high priority for software development companies.

Factors that influence Human Computer Interface

Factors that influence the Human computer interface includes:

1. Organizational factors
2. Environmental factors
3. Health and safety factors
4. The User
5. Task factors
6. Constraints
7. Comfort factors
8. System functionality
9. Productivity costs

Human Computer Interface Course Outline

Human Computer Interface - HCI Introduction
Human Computer Interface - Guidelines in HCI
Human Computer Interface - Interactive System Design
Human Computer Interface - Interactive Devices
Human Computer Interface - Design Process & Task Analysis
Human Computer Interface - Dialog Design
Human Computer Interface - Information Search & Visualization
Human Computer Interface - Object Oriented Programming
Human Computer Interface - HCI Summary
Human Computer Interface - Video Lectures
Human Computer Interface - Exams and Certification