# 1.3.2: Number of value-added courses for imparting transferable and life skills offered during last five years

# 1.3.2: Number of value-added courses for imparting transferable and life skills offered during last five years

**Contents**

1] Brochure/Syllabus

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Fundamentals of Stock Market

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

**Course Description: The course is focusing on understanding to various aspects of stock market**

**Course Objectives:**

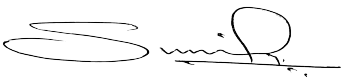
1. To get the students acquainted with basic knowledge of the stock market, stock exchanges, and regulations of the stock market in India
2. To enable the students for making analyses of stocks and understand the role of custodians and depositaries of the Indian Stock Market

### Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| 1. | Basics of Stock market: Meaning, Definition, importance, and functions of stock market | 2.5 |
| 2. | Stock exchanges: Introduction, meaning, definition, Importance of stock Exchange, | 2.5 |
| 3. | Brief history and functioning of Bombay Stock Exchange and National Stock Exchange | 2.5 |
| 4. | Security Exchange Board of India: Introduction, Function, and rights of SEBI | 2.5 |
| 5. | Public Issue – Concept & procedure, Listing Norms of securities. | 2.5 |
| 6. | Analysis of stocks: Fundamental analysis, technical analysis | 2.5 |
| 7. | Book-Building, Green Shoe Option, Right Issue, Private Placement. | 2.5 |
| 8. | Trading Cycle: Screen based trading system (SBTS), it's Computational Mechanism (Sensex, NIFTY), Trading settlement systems | 2.5 |
| 9. | Major Stock market indices (Sensex, Nifty) : Introduction and computation | 2.5 |
| 10. | Custodian and Depositories: Introduction of depositories, Function of depositaries | 2.5 |
| 11. | Recent development in Indian Stock Market | 2.5 |
| 12. | Challenges in Indian Stock Market, Scams in Indian stock market | 2.5 |

### Course Outcomes:

- To acquaint the students with the latest concepts of the stock market with reference to recent developments.
- To impart in-depth knowledge and determine the concepts of regulators in the Indian stock market.
- To compare and analyze regarding the different types of stock analysis and Issue Management
- To develop insights regarding concepts and mechanisms on stock exchanges and trading cycles.
- To evaluate and examine the scams and scandals from the different stock exchanges around the world.



# Value Added Courses

## Entrepreneurship

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

### Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| **1.** | Who is an Entrepreneur? | 1 |
| **2.** | Micro Lab and Discussion | 1 |
| **3.** | Important aspects of selection of Business Venture | 2 |
| **4.** | Entrepreneurial Opportunities | 2 |
| **5.** | About Banks | 2 |
| **6.** | Success Stories of Entrepreneurs | 2 |
| **7.** | About District Entrepreneurship center | 1 |
| **8.** | Who can be contacted for what | 1 |
| **9.** | Market Survey | 1 |
| **10.** | Marketing Management | 1 |
| **11.** | Factory Visit | 1 |
| **12.** | Project Report | 1 |
| **13.** | Accounting System | 2 |
| **14.** | General Management | 2 |
| **15.** | Personnel Management | 2 |
| **16.** | Financial Management | 2 |
| **17.** | Fixed and Working Capital | 2 |
| **18.** | Loan Application and Understanding of Lending Procedures | 2 |
| **19.** | Computer in Business | 1 |
| **20.** | A.M.T. | 1 |
| **Total Hours** | | **30** |

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Personal Tax Planning

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

### Course Description:

### Course Objectives:

1) Students should learn about the basics of the Income Tax Act, 1961
2) Students have to briefed about various heads of income and computation overview
3) Students should learn various deductions and exemptions available under the Income Tax Act, 1961

### Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| 1. | Meaning of Tax – Types of Tax: Direct Taxes and Indirect Taxes – Difference between Direct & Indirect Taxes | 2 |
| 2. | Constitutional rights of governments to levy tax | 2 |
| 3. | Basic definitions of Income tax law | 3 |
| 4. | Slabs of Income Tax | 2 |
| 5. | Brief overview of Five Heads of Income – Salary and House Property | 2 |
| 6. | Brief overview of Five Heads of Income – Profits and Gains from Business and Profession | 4 |
| 7. | Brief overview of Five Heads of Income – Capital Gains | 4 |
| 8. | Brief overview of Five Heads of Income – Income From Other Sources | 2 |
| 9. | Tax Planning vs. Tax Evasion | 1 |
| 10. | Tax Planning for Salary – Deductions u/s 16 and Exemptions | 2 |
| 11. | Exemptions from Capital Gains – Sec. 54 and Sec. 54F | 1 |
| 12. | Deductions u/s 80C to 80U | 5 |
| **Total Hours** | | **30** |

### Course Outcomes:

1) Understanding of the basics of Income Tax Planning.
2) Students are able to apply various tools of deductions and exemptions available under the Income Tax Act, 1961.
3) Understand Tax Planning from capital gains and various deductions available under Chapter VI-A of the Income Tax Act,1961

# Value Added Courses

## Advanced Excel

## Faculty of Management Studies
## Marwadi University Rajkot

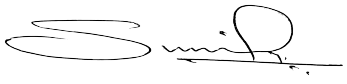
# 1.3.2 – Syllabus of Certification Course

## Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| **1.** | Basics of Excel | 3 |
| **2.** | Preparing and Inserting Charts | 1 |
| **3.** | Organising, sorting, filtering, lookup functions | 2 |
| **4.** | Basic Arithmetic Functions | 2 |
| **5.** | Conditional functions | 3 |
| **6.** | Data Validation, Converting Text to Table | 3 |
| **7.** | Creating TABLES & NAMED RANGES | 3 |
| **8.** | Analyze data dynamically by using PivotTables | 3 |
| **9.** | Create dynamic charts by using Pivot Charts | 3 |
| **10.** | Page Setup and Printing | 1 |
| **11.** | Use of Excel in – Statistic, Finance, Accounting, HR, Marketing Management | 3 |
| **12.** | Create & Run Macro | 3 |
| **Total Hours** | | **30** |

## Course Outcomes:

- Able to perform routine organizational tasks using Excel.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet. Create a dynamic excel spreadsheet



FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Tally

## Faculty of Management Studies
## Marwadi University Rajkot

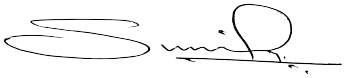
# 1.3.2 – Syllabus of Certification Course

## Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| **1.** | Fundamentals of Tally Prime | 3 |
| **2.** | Accounting Masters in Tally Prime | 3 |
| **3.** | Inventory Masters in Tally Prime | 3 |
| **4.** | Payroll Masters in Tally Prime | 2 |
| **5.** | Recording of Day to Day Transactions in Tally Prime | 5 |
| **6.** | Getting started with GST in Tally Prime | 12 |
| **7.** | Generating Accounting Reports | 1 |
| **8.** | Generating Inventory & Other Reports | 1 |

## Course Outcomes:

- Gain insights of Tally Prime software, theoretically as well as practically.
- Generate various reports and statements using Tally Prime.



FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Export Documentation

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

### Course Description:

**This course will help the students to learn the fundamental principles of various export documentation and its implications and the role of various factors affecting export procedures.**

### Course Objectives:

**The objective of this course is to make students learn the complete mechanism of export and various documents required for export.**

### Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| 1. | **Export Procedures and Documents:** The Search for an overseas buyer, Processing an Export Order, Negotiation of Documents, Role of Banks in Export-Import Transactions. | 6 |
| 2. | **EXIM Strategies and Export Marketing:** EXIM Business Plan and Strategy, Export Strategy Formulation, Export Financing, Import Strategy (Souring Strategy), International Marketing, Export Marketing – Going Global, Different Forms of International Trade. | 6 |
| 3. | **Methods of Financing Exporters and Business Risk Management:** Pre-Shipment Finance, Post Shipment Export Advance, Factoring and Insurance, Types of Risks, Quality and Pre Shipment Inspection. | 6 |
| 4. | **Custom Clearance of Import and Export Cargo:** Clearance of Import Cargo, Clearance of Export cargo, Custom Valuation, The Harmonized System, Carnets, New Developments in Custom Clearance Procedure | 6 |
| 5. | **Export Incentive Schemes:** Duty Exemption Scheme, Duty Remission Scheme, Export Promotion Capital Goods Scheme, Special Economic Zones. **Information Technology in International Business:** Electronic Procurement, Electronic Marketing, Electronic Logistics. | 6 |
| **Total Hours** | | **30** |

### Course Outcomes:

After completing this course students should be able to :

- Discuss the concepts of overseas buyer.
- Procedure of an export order
- Understand negotiation of documents
- Various strategies of EXIM Business
- Process of custom clearance
- Various export incentives
- Implementation to IT in international business.

# Database Design and Programming with SQL – Course Description

## Overview

This course engages students to analyze complex business scenarios and create a data model—a conceptual representation of an organization's information. Participants implement their database design by creating a physical database using SQL. Basic SQL syntax and the rules for constructing valid SQL statements are reviewed. This course culminates with a project that challenges students to design, implement, and demonstrate a database solution for a business or organization.

## Available Curriculum Languages:

- English, Simplified Chinese, Brazilian Portuguese, Spanish, Indonesian

## Duration

- Recommended total course time: 180 hours*
- Professional education credit hours for educators who complete Oracle Academy training: 60

* *Course time includes instruction, self-study/homework, practices, projects, and assessment*

## Target Audiences

### Educators

- College/university faculty who teach computer programming, information communications technology (ICT), or a related subject
- Secondary school teachers who teach computer programming, ICT, or a related subject

### Students

- Students who wish to learn the techniques and tools to design, guild and extract information from a database
- Students who possess basic mathematical, logical, and analytical problem-solving skills
- Novice programmers, as well as those at advanced levels, to learning the SQL Programming language to an advanced level

## Prerequisites

### Required

- Ease with using a computer
- General knowledge of databases and query activity

### Suggested

- None

## Suggested Next Courses

- Database Programming with PL/SQL

H. P. Sh

Head of the Department
Information Technology Engineering
Marwadi University

## Lesson-by-Lesson Topics

### Database Design

#### Introduction

- Introduction to the Oracle Academy
- Data vs. Information
- History of the Database
- Major Transformations in Computing

#### Entities and Attributes

- Conceptual and Physical Models
- Entities, Instances, Attributes, and Identifiers
- Entity Relationship Modeling and ERDs

#### Relationship Basics

- Identifying Relationships
- ER Diagramming Conventions
- Speaking ERDish and Drawing Relationships
- Matrix Diagrams

#### Super/Sub Types and Business Rules

- Supertypes and Subtypes
- Documenting Business Rules

#### Relationship Fundamentals

- Relationship Transferability
- Relationship Types
- Resolving Many-to-Many Relationships
- Understanding CRUD Requirements

#### UIDs and Normalization

- Artificial, Composite, and Secondary UIDs
- Normalization and First Normal Form
- Second Normal Form
- Third Normal Form

#### Arcs, Hierarchies, and Recursive Modeling

- Arcs
- Hierarchies and Recursive Relationships

#### Changes and Historical Modeling

- Modeling Historical Data
- Modeling Change: Time
- Modeling Change: Price
- Drawing Conventions for Readability

#### Mapping

- Introduction to Relational Database Concepts
- Basic Mapping: The Transformation Process
- Relationship Mapping
- Subtype Mapping

### Creating Database Projects

- System Development Life Cycle
- Project Overview and Getting Started
- Presentation Project Management
- Final Presentation Components

### Presenting Database Projects

- Creating Tables for the Final Presentation
- Preparing Written Documentation
- Preparing Visual Materials
- Final Presentations

## Database Programming with SQL

### Introduction

- Oracle Application Express
- Relational Database Technology
- Anatomy of a SQL Statement

### SELECT and WHERE

- Columns, Characters, and Rows
- Limit Rows Selected
- Comparison Operators

### WHERE, ORDER BY, and Intro to Functions

- Logical Comparisons and Precedence Rules
- Sorting Rows
- Introduction to Functions

### Single Row Functions Part I

- Case and Character Manipulation
- Number Functions
- Date Functions

### Single Row Functions Part II

- Conversion Functions
- NULL Functions
- Conditional Expressions

### JOINs Part I

- Cross Joins and Natural Joins
- Join Clauses
- Inner versus Outer Joins
- Self-Joins and Hierarchical Queries

### JOINs Part II

- Oracle Equijoin and Cartesian Product
- Oracle Nonequijoins and Outer Joins

### Group Functions Part I

- Group Functions
- COUNT, DISTINCT, NVL

**Group Functions Part II**

- Using Group By and Having Clauses
- Using Rollup and Cube Operations, and Grouping Sets
- Using Set Operators

**Subqueries**

- Fundamentals of Subqueries
- Single-Row Subqueries
- Multiple-Row Subqueries
- Correlated Subqueries

**Ensuring Quality Queries Part I**

- Ensuring Quality Query Results

**DML**

- INSERT Statements
- Updating Column Values and Deleting Rows
- DEFAULT Values, MERGE, and Multi-Table Inserts

**DDL**

- Creating Tables
- Using Data Types
- Modifying a Table

**Constraints**

- Intro to Constraints; NOT NULL and UNIQUE Constraints
- PRIMARY KEY, FOREIGN KEY, and CHECK Constraints
- Managing Constraints

**Views**

- Creating Views
- DML Operations and Views
- Managing Views

**Sequences and Synonyms**

- Working With Sequences
- Indexes and Synonyms

**Privileges and Regular Expressions**

- Controlling User Access
- Creating and Revoking Object Privileges
- Regular Expressions

**TCL**

- Database Transactions

**Final Project and Exam Review**

- Testing
- Final Project Database Creation
- Final Exam Review

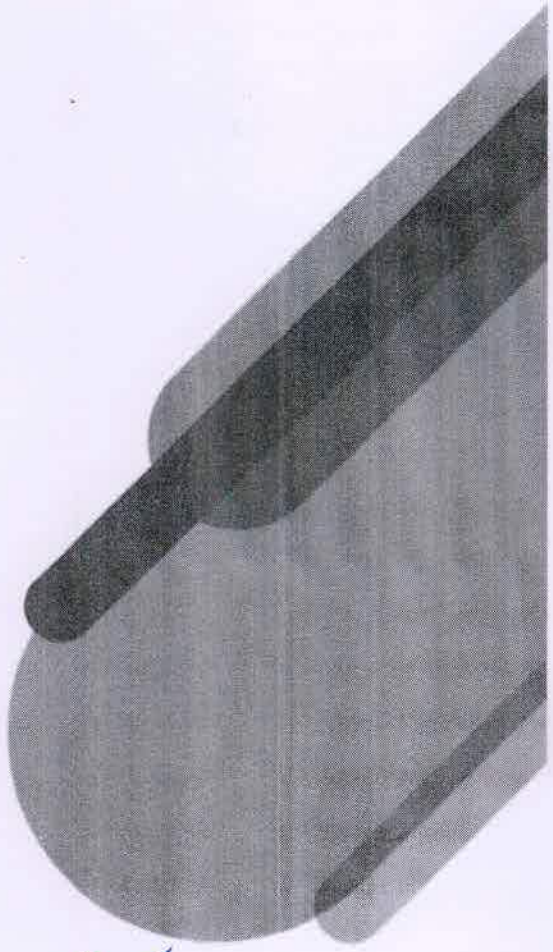
**Ensuring Quality Queries Part II**

- Ensuring Quality Query Results - Advanced Techniques

Networking Academy

# Product Catalog

November 2021

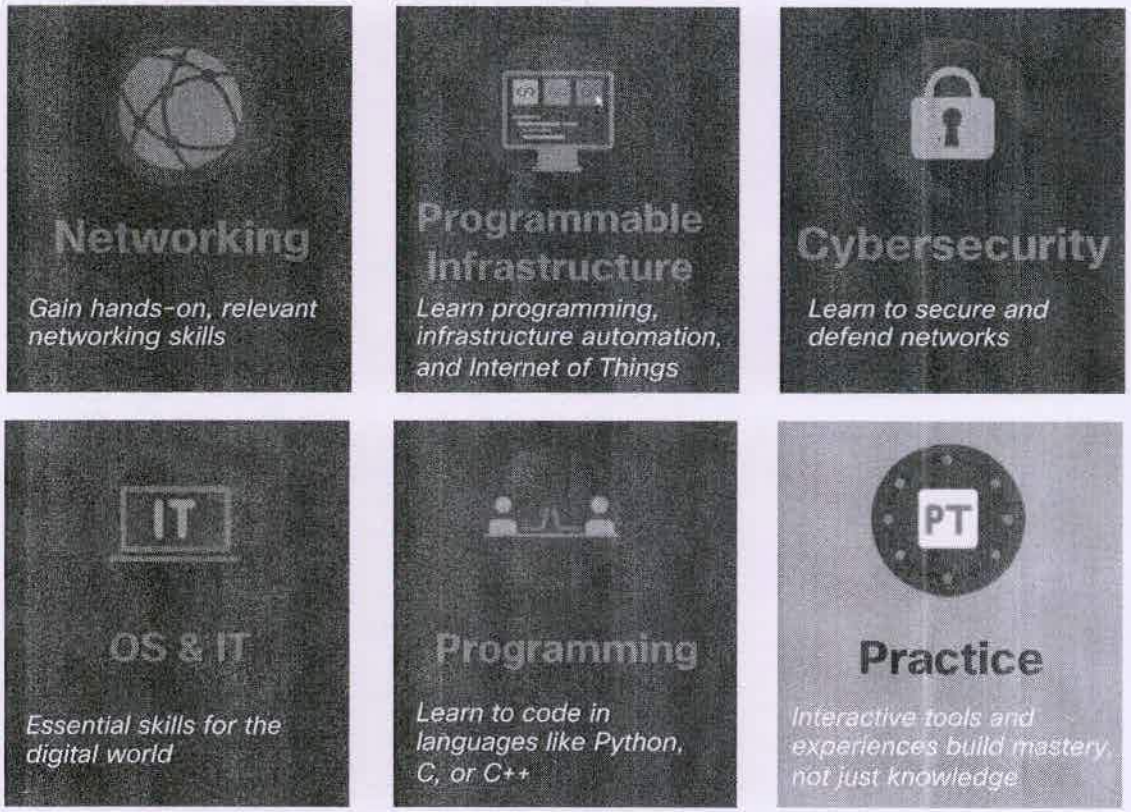


Head of the Department
Information Technology Engineering
Marwadi University

Networking Academy
CISCO

# Prepare the workforce of the future

Leading-edge curriculum designed to educate students for jobs of today and tomorrow



# Types of Course Offerings

## Explore Courses

*Easy starting points to explore opportunities in technology*

- No prerequisites
- No cost
- Typically self–paced
- Between 8–30 hours

## Career Courses

*Equip students with real job skills for entry–level positions*

- Aligned to industry–valued certifications
- Typically instructor–led and 70 hours of instruction time
- Integrated hands–on practice and interactive experiences

## Complementary Offerings

Extend your teaching with courses from Networking Academy partners

- Aligned to industry–valued certifications
- Some self–paced courses
- Some instructor–led courses for 70 hours of instruction time

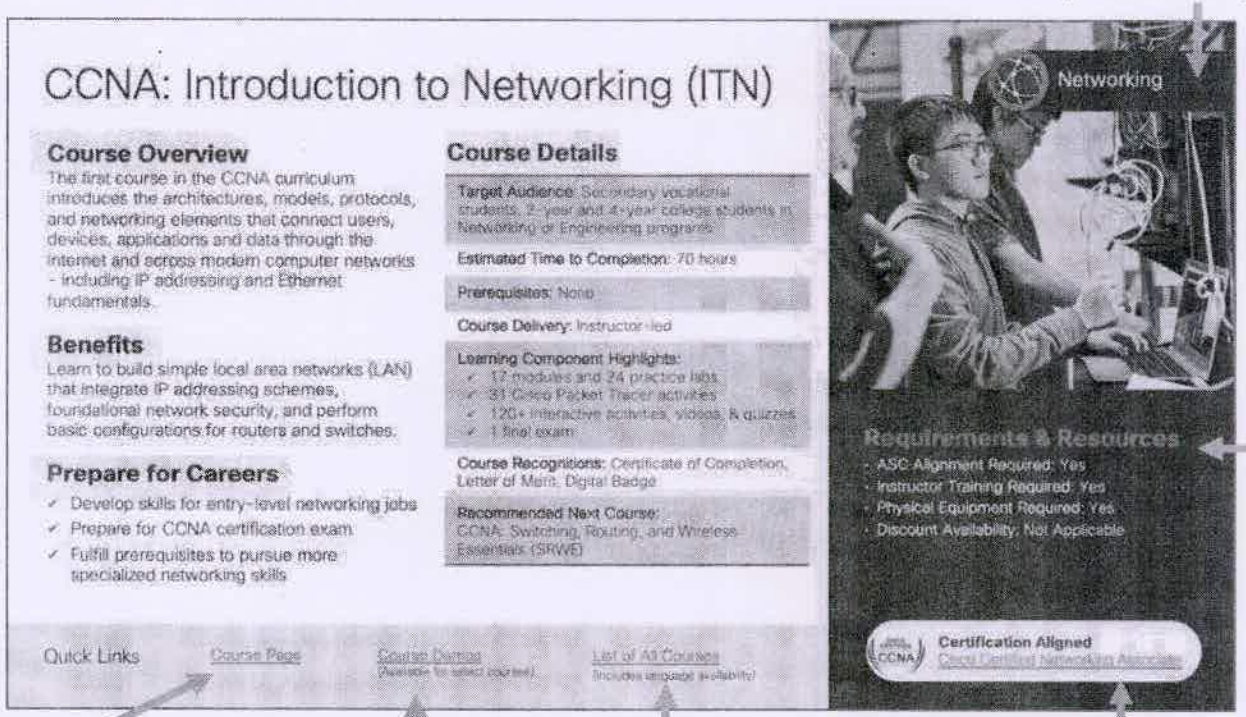
## Practice

Learning tools, hands–on labs, and interactive experiences are integrated into courses to build skills, not just knowledge

L. P. Sh

# In This Catalog

Easy navigation by course category.



## CCNA: Introduction to Networking (ITN)

### Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

### Benefits

Learn to build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

### Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

### Course Details

**Target Audience:** Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

**Estimated Time to Completion:** 70 hours

**Prerequisites:** None

**Course Delivery:** Instructor-led

**Learning Component Highlights:**
- ✓ 17 modules and 24 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 120+ interactive activities, videos, & quizzes
- ✓ 1 final exam

**Course Recognitions:** Certificate of Completion, Letter of Merit, Digital Badge

**Recommended Next Course:** CCNA: Switching, Routing, and Wireless Essentials (SRWE)

Quick Links: Course Page | Course Demos (Available for select courses) | List of All Courses (Includes language availability)



ASC Alignment Required: Due to the technical nature of some courses, Networking Academy may require that your institution receive support from an Academy Support Center (ASC).

Instructor Training Required: Some courses require accreditation or instructor training to ensure quality learning outcomes for your students.

Physical Equipment Required: Lab equipment may be required depending on the course.

Discount Availability: Discounts are available for select certification exams, for individuals meeting eligibility criteria.

Find the course page on NetAcad.com.

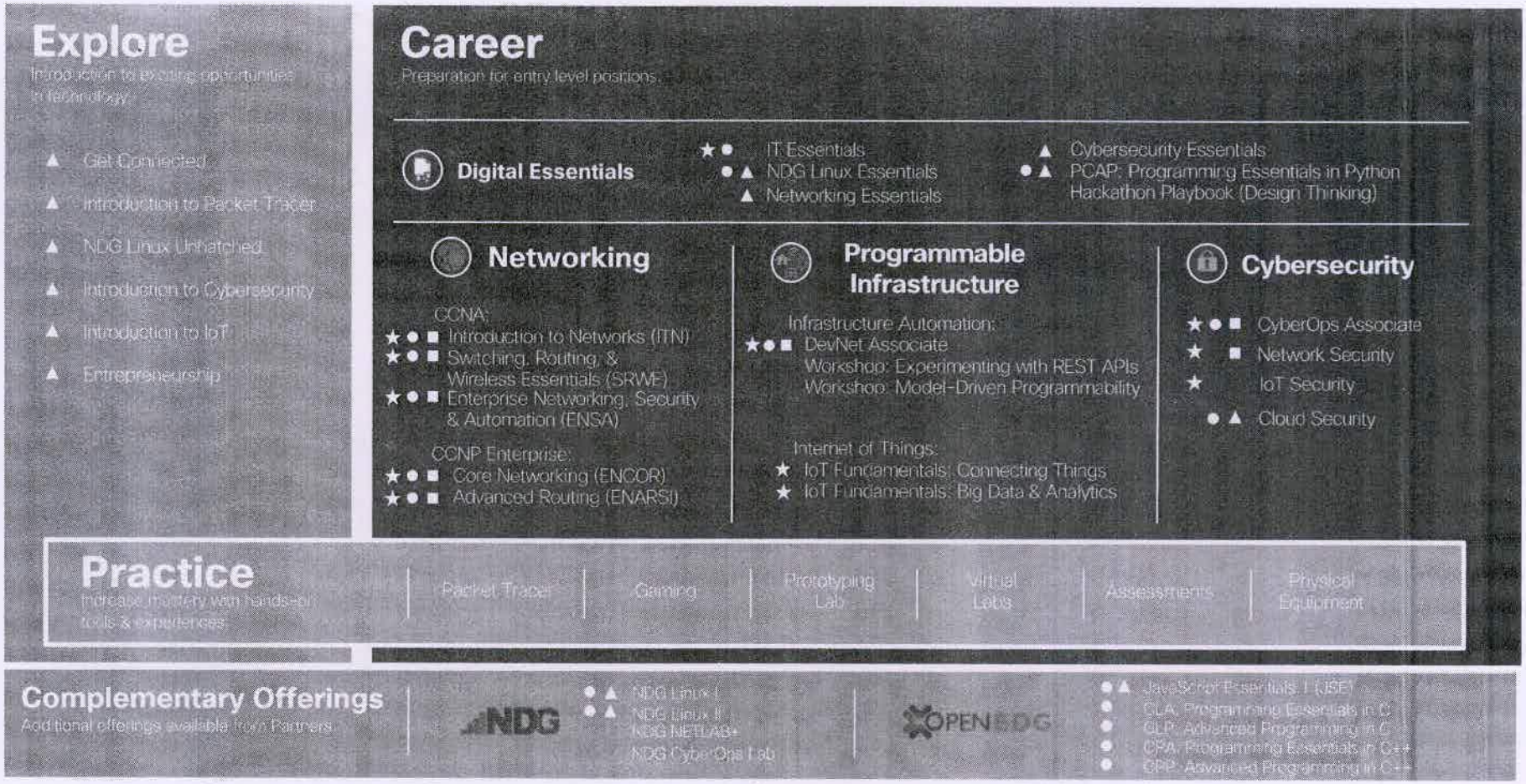
Course Demos are available for select courses to preview the content.

Explore the full Networking Academy course list online and filter by language. There is also a language summary matrix at the end of this catalog.

See which courses align with a certification, or get other tips about the course.

# Networking Academy Curriculum Portfolio

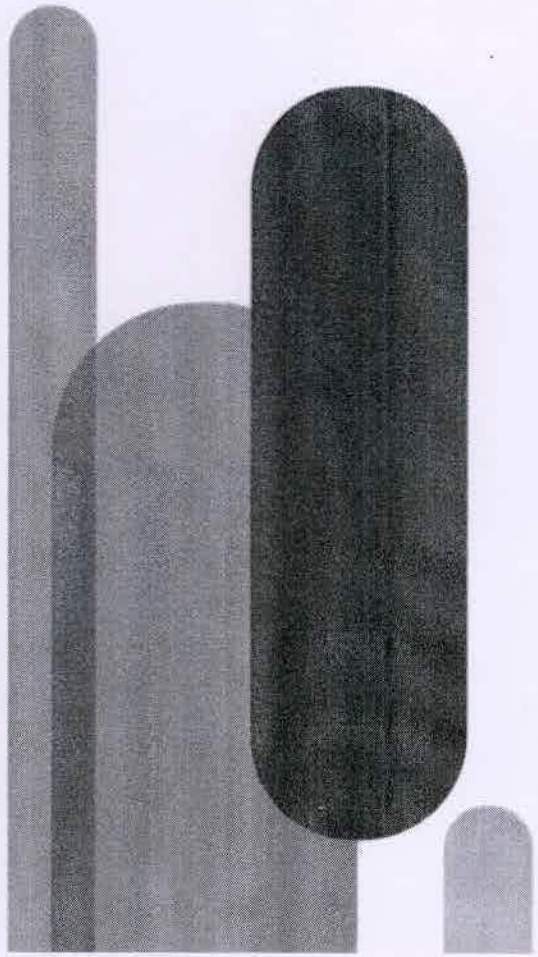
11.04.2021




○ Access to Certification/Certificate  □ Instructor Training Required  △ Self-paced  ☆ ASC Alignment Required

Head of the Department
Information Technology Engineering
Marwadi University

# Networking



# Networking Essentials

## Course Overview

Networking Essentials teaches networking based on environments students may encounter in daily life, including small office and home office networking. This course provides an engaging, self-paced learning experience using Packet Tracer simulation, interactive activities, and learning with your own devices at home.

## Benefits

Develop a foundational understanding of the high-level network architecture and how a network operates.

## Prepare for Careers

- ✓ For developers, cybersecurity, business analysts, or other professionals: gain essential networking knowledge
- ✓ For students: a launching point for many career pathways, from cybersecurity to software to business and more

## Course Details

Target Audience: High school, secondary and 2-year college vocational students, college and university students studying IT and non-IT fields, career changers

Estimated Time to Completion: 70 hours

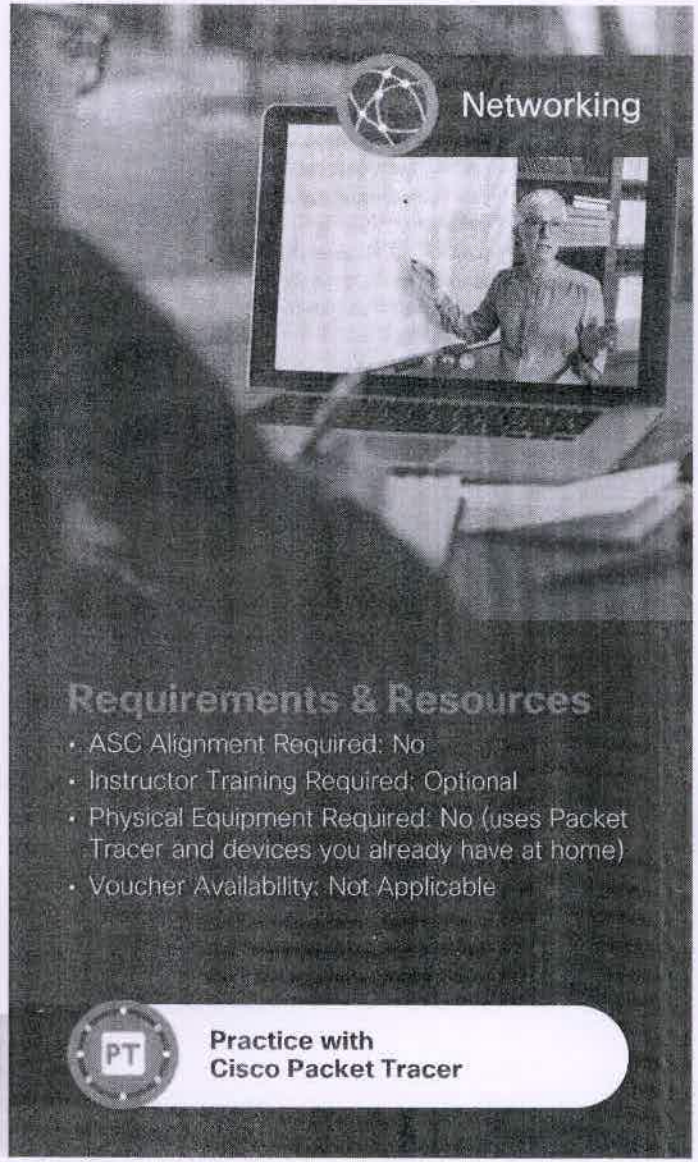
Prerequisites: None

Course Delivery: Self-Paced, Instructor-led

Learning Component Highlights:
- ✓ 20 modules and 19 practice labs
- ✓ 24 Cisco Packet Tracer activities
- ✓ 130+ interactive activities, videos, & quizzes
- ✓ 5 module exams
- ✓ 1 final exam and 1 skills assessment (Instructor-led only)

Course Recognitions: Certificate of Completion, Digital Badge (Instructor-led only)

Recommended Next Course:
CCNA: Introduction to Networks (ITN), Cybersecurity Essentials, or DevNet Associate




Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

# CCNA: Introduction to Networking (ITN)

## Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

## Benefits

Learn to build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

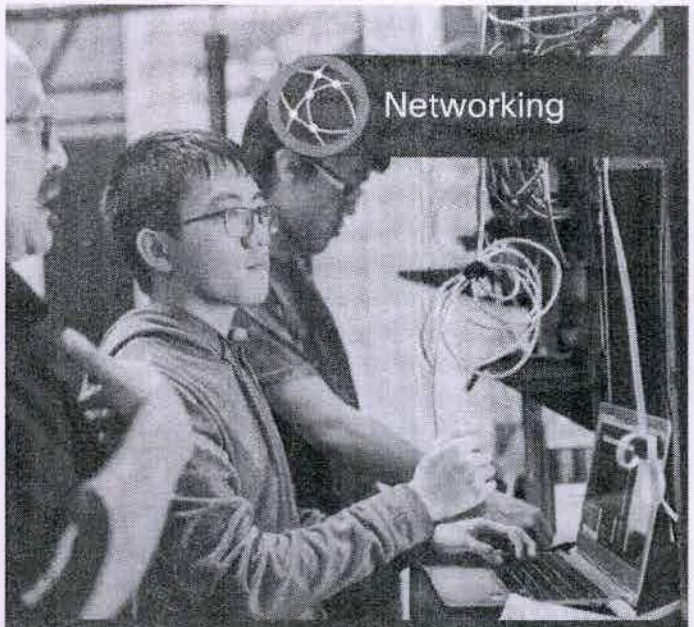
Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 17 modules and 24 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 120+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
CCNA: Switching, Routing, and Wireless Essentials (SRWE)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes*
- Discount Availability: Not Applicable

* Includes Distance Learning option with Packet Tracer if lab equipment is not available

**Certification Aligned**
Cisco Certified Networking Associate

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(includes language availability)

# CCNA: Switching, Routing, and Wireless Essentials (SRWE)

## Course Overview

The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts.

## Benefits

Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 16 modules and 14 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 70+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
CCNA: Enterprise Networking, Security, and Automation (ENSA)

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes*
- Discount Availability: Not Applicable

*Includes Distance Learning option with Packet Tracer if lab equipment is not available

**Certification Aligned**
Cisco Certified Networking Associate

L. P. Ode

Head of the Department
Information Technology Engineering
Marwadi University

# CCNA: Enterprise Networking, Security, and Automation (ENSA)

## Course Overview

The final course in the CCNA series covers the architecture, security, and operation of an enterprise network, along with introducing the new ways in which network engineers interact with programmable infrastructure.

## Benefits

Gain skills to configure and troubleshoot enterprise networks, learn to identify and protect against cybersecurity threats, and discover key concepts of software-defined networking, including controller-based architectures and application programming interfaces (APIs).

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 14 modules and 12 practice labs
- ✓ 29 Cisco Packet Tracer activities
- ✓ 100+ interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

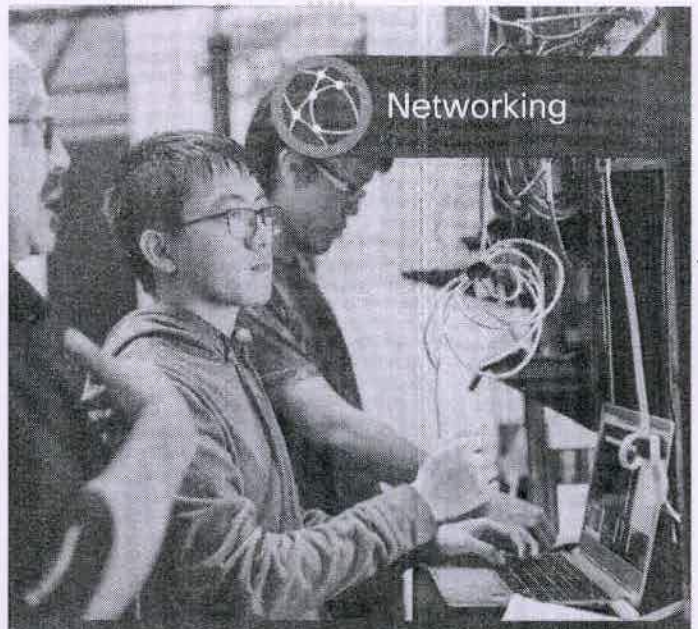
Recommended Next Course:
CCNP Enterprise: Core Networking (ENCOR)

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes*
- Discount Availability: Yes

*Includes Distance Learning option with Packet Tracer if lab equipment is not available

**Certification Aligned**
Cisco Certified Networking Associate

# CCNP Enterprise: Core Networking (ENCOR)

## Course Overview

This first course in the 2-course CCNP Enterprise series covers switching, routing, wireless, and related security topics, along with the technologies that support software-defined, programmable networks.

## Benefits

Gain practical, hands-on experience and skills needed to configure, operate and troubleshoot large scale enterprise networks.

## Prepare for Careers

- ✓ Develop skills for professional-level networking roles
- ✓ Prepare for the Cisco Enterprise Network Core Technologies exam (350-401 ENCOR) to earn an Enterprise Core Specialist certification
- ✓ Completion of both CCNP Enterprise courses prepares for CCNP Enterprise certification

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

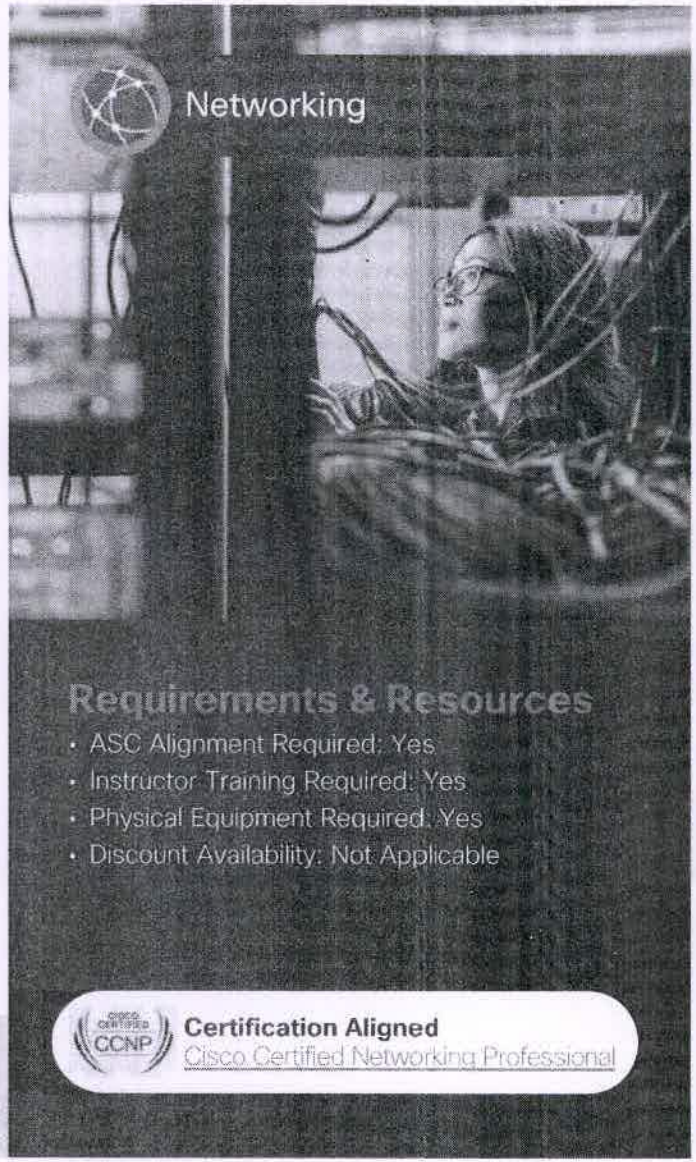
Recommended Preparation: CCNA or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 29 chapters and 41 practice labs
- ✓ 24 Cisco Packet Tracer activities (optional)
- ✓ 35+ interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
CCNP Enterprise: Advance Routing (ENARSI)




Quick Links — Course Page — Course Demos (Available for select courses) — List of All Courses (Includes language availability)

# CCNP Enterprise: Advanced Routing (ENARSI)

## Course Overview

This second of the 2-course CCNP Enterprise series focuses on implementation and troubleshooting of advanced routing and redistribution for OSPF, EIGRP and BGP along with VPN technologies, infrastructure security and management tools used in Enterprise networks.

## Benefits

Gain practical, hands-on experience and skills needed to configure, operate and troubleshoot large scale enterprise networks.

## Prepare for Careers

- ✓ Develop skills for professional-level networking roles
- ✓ Prepare for Cisco Enterprise Advanced Routing & Services exam (300-410 ENARSI) to earn a CCNP Specialist certification
- ✓ Completion of both CCNP Enterprise courses prepares for CCNP Enterprise certification

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Recommended Preparation: ENCOR or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 23 chapters and 40 practice labs
- ✓ 20 Cisco Packet Tracer activities (optional)
- ✓ 25+ videos & quizzes, 2 Skills Assessments
- ✓ 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

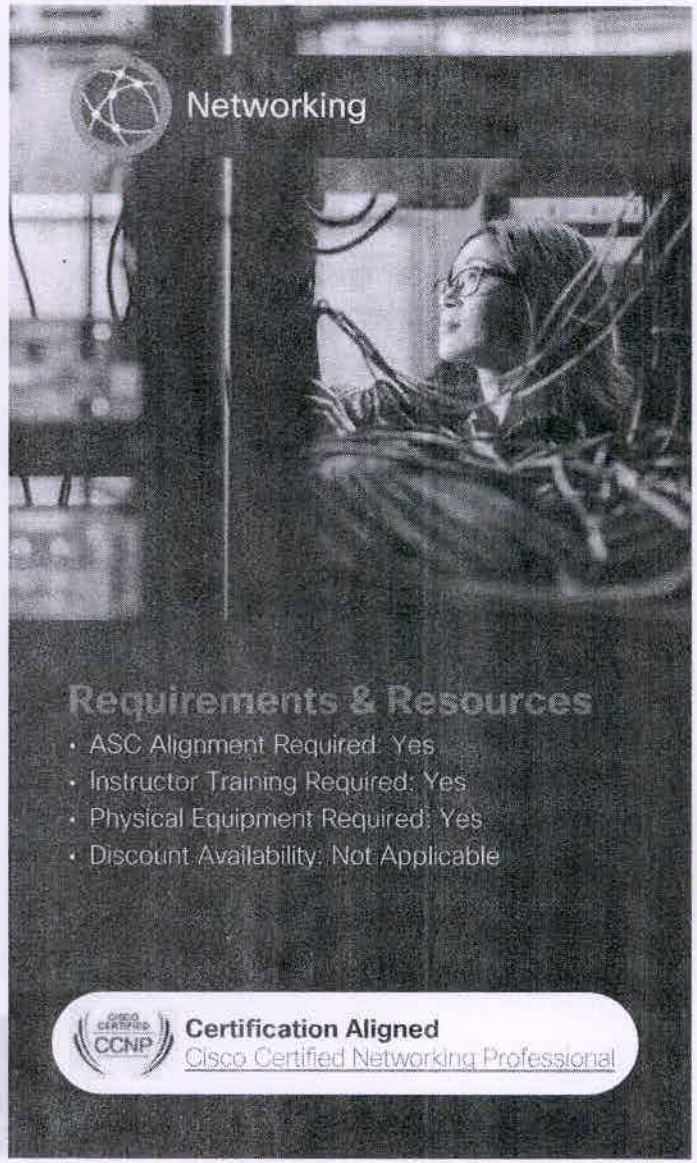
Recommended Next Course:
Broaden your skills with DevNet Associate, CyberOps Associate, Python, or Emerging Technologies Workshops

Quick Links

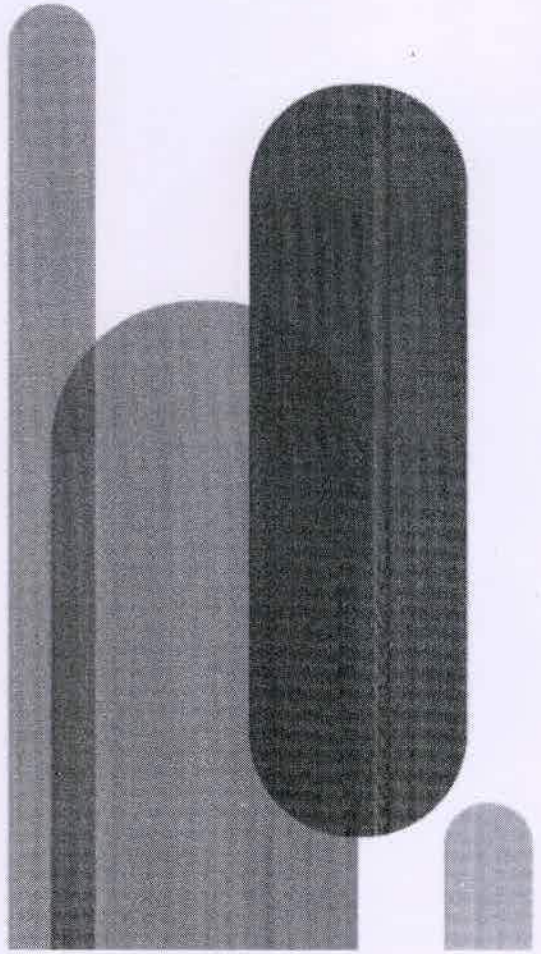
Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)



# Operating Systems & Information Technology



Head of the Department
Information Technology Engineering
Marwadi University

# Get Connected

## Course Overview

Get Connected students are introduced to the Internet and experiment with various social networking sites. Talking characters and devices make this course a user-friendly environment for an audience new to Information Technology (IT).

## Benefits

The digital world is upon us both personally and professionally. Gain essential skills like basic computer skills, such as how to use a computer, connect devices, and access search, email, and social media.

## Explore Opportunities in Technology

- ✓ Develop your digital basics
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: Secondary and general audience new to IT

Estimated Time to Completion: 30 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 5 chapters
- ✓ Illustrations and narrations guide students through topics
- ✓ Interactive activities, videos, & quizzes

Course Recognitions: Certificate of Completion

Recommended Next Course:
IT Essentials

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

**Career Advice**
Tips for getting started in your career

# IT Essentials

## Course Overview

IT Essentials covers fundamental computer and career skills for entry-level IT jobs. Students apply skills and procedures to install, configure, and troubleshoot computers, mobile devices, and software.

## Benefits

Learn the fundamentals of connecting computers to networks. Plus, you'll enjoy working with Cisco Networking Academy's advanced simulation tools with hands-on labs to hone your troubleshooting skills and immediately practice what you learn!

## Prepare for Careers

- ✓ Develop skills for entry-level technical support roles
- ✓ Prepare for CompTIA A+ certification exam
- ✓ Build your foundation for CCNA-level courses

## Course Details

Target Audience: Secondary and 2-year college vocational students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 14 chapters and 99 practice labs
- ✓ Cisco Packet Tracer, virtual laptop, and virtual desktop learning tools
- ✓ 29+ interactive activities
- ✓ 18+ assessments throughout the course
- ✓ 1 final and 2 practice certification exams

Course Recognitions: Certificate of Completion, Digital Badge, Letter of Merit

Recommended Next Course:
CCNA: Introduction to Networking (ITN)

IT OS & IT

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

**Certification Aligned**
CompTIA A+ Certification

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

L. Pash

# NDG Linux Unhatched

## Course Overview

This course covers introductory back-end operating system knowledge by teaching basic installation and configuration of Linux and introducing the Linux command line.

## Benefits

Learners ease into acquiring Linux knowledge without having to commit to more than 8 total hours of self-paced learning, guided step-by-step with a series of hands-on virtual machine activities.

## Explore Opportunities in Technology

- ✓ Wade into the shallow end of Linux and see whether it's for you or not
- ✓ Develop your digital basics
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: Secondary and general audience new to IT

Estimated Time to Completion: 6-8 hours

Prerequisites: None

Course Delivery: Self-paced

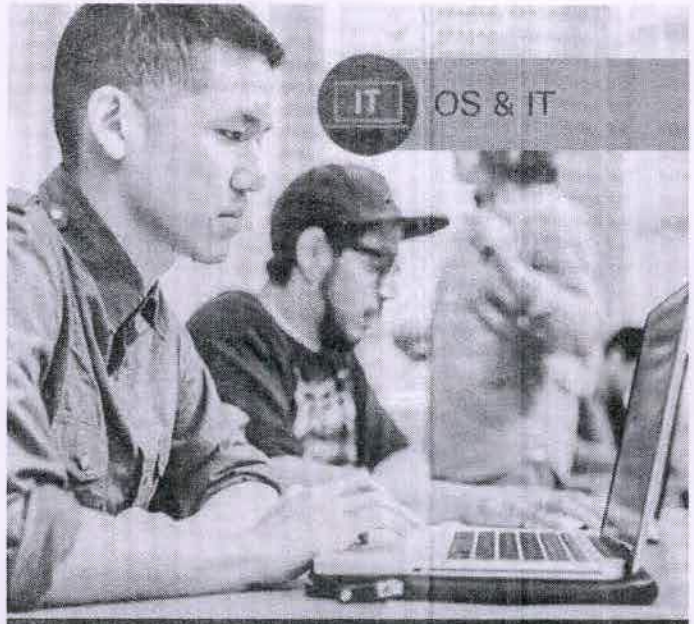
Learning Component Highlights:
- ✓ 1 module
- ✓ 20 pages
- ✓ Built-in Linux machine with activities
- ✓ 1 assessment

Course Recognitions: Letter of Completion

Recommended Next Course:
NDG Linux Essentials

In partnership with NDG

Quick Links
Course Page
Course Demos (Available for select courses)
List of All Courses (Includes language availability)




## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

**Career Advice**
Tips for getting started in your career

Head of the Department
Information Technology Engineering
Marwadi University

# NDG Linux Essentials

## Course Overview

This course teaches fundamentals of the Linux operating system, command line, and open source programming concepts.

## Benefits

Nearly every IT job requires some Linux knowledge. Gain hands-on practice with Linux commands through the Linux virtual machine embedded in the course.

## Prepare for Careers

- ✓ Develop fundamental operating system skills for entry-level IT jobs
- ✓ Prepare for LPI certificate exam
- ✓ Fulfill prerequisites to pursue more specialized IT and networking skills

## Course Details

Target Audience: Secondary and 2-year college students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 16 chapters and 13 practice labs
- ✓ Built-in virtual machine to experiment with Linux commands
- ✓ Learner-directed activities
- ✓ Chapter, midterm, and final exams

Course Recognitions: Letter of Completion

Recommended Next Course:
NDG Linux I

In partnership with NDG

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

**Certification Aligned**
Linux Professional Institute (LPI) Linux Essentials Professional Development Certificate

# NDG Linux I and II

## Course Overview

A 2-course series for aspiring Linux system administrators. Covers performing maintenance tasks on the command line, installing and configuring a computer running Linux, and configuring basic networking, using virtual machines running Linux.

## Benefits

More rigorous and comprehensive than NDG Linux Essentials, this course develops your Linux mastery. Gain hands-on practice with Linux commands through the Linux virtual machine embedded in the course.

## Prepare for Careers

- ✓ Develop skills for careers in cloud computing, cybersecurity, information systems, networking, programming, software development, big data, and more
- ✓ Prepare for LPIC-1 certification exams

## Course Details

Target Audience: 2-year and 4-year college students

Estimated Time to Completion: 140 hours

Recommended Preparation: NDG Linux Essentials or equivalent

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ Built-in virtual machine to experiment with Linux commands
- ✓ Practice labs and activities
- ✓ Chapter, midterm, and final exams

Course Recognitions: Letter of Completion

Recommended Next Course: DevNet Associate

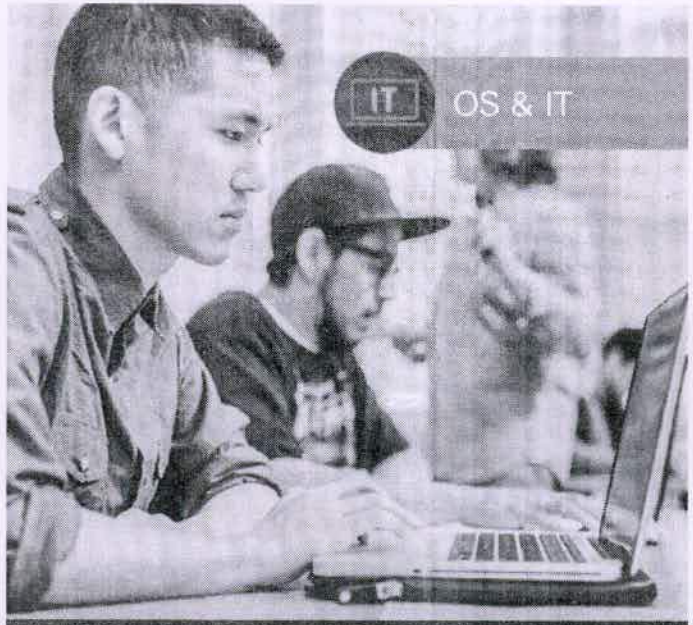
**In partnership with** NDG

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)



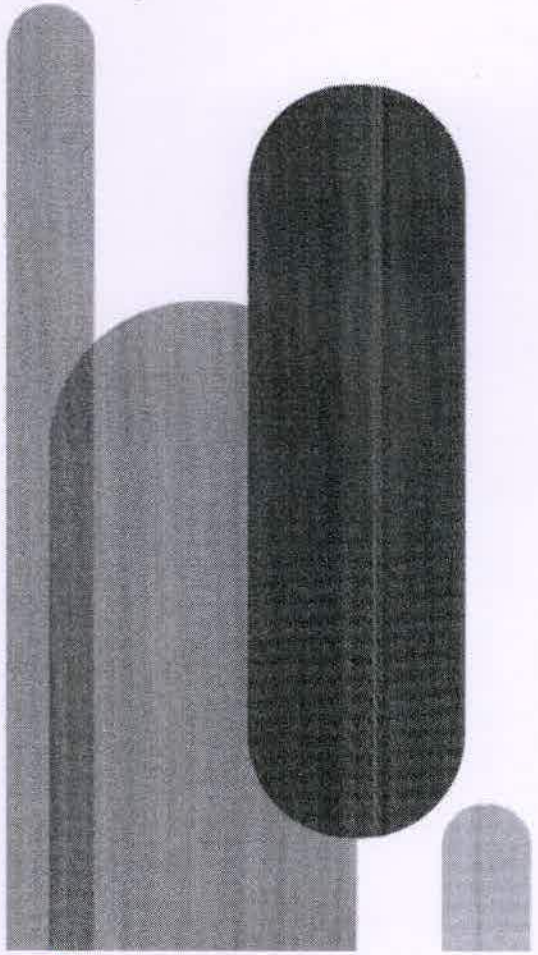

## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes
- Cost: Fee for self-paced classes. Cost for instructor-led classes is determined by the institution.

**Certification Aligned**
Linux Professional Institute LPIC-1

T. Rob

# Programming



# PCAP: Programming Essentials in Python

## Course Overview

Designed as easy to understand and beginner-friendly course focusing on various data collections, manipulation tools, logic and bit operations and creating basic REST APIs.

## Benefits

Learn to design, write, debug, and run programs encoded in the Python language. No prior programming knowledge is required. The course begins with the very basics guiding you step by step until you become adept at solving more complex problems.

## Prepare for Careers

- ✓ Develop fundamental programming skills
- ✓ Prepare for PCEP and PCAP certification exam
- ✓ Build your foundation to pursue more specialized networking and software development skills

## Course Details

Target Audience: Secondary, 2-year and 4-year college students

Estimated Time to Completion: 75 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 8 modules of interactive instructional content
- ✓ 30+ practice labs
- ✓ Built-in online tool for labs and practice
- ✓ Quizzes, tests, and final exam

Course Recognitions: Statement of Achievement

Recommended Next Course:
DevNet Associate

In partnership with OPENEDG


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

**Certification Aligned**
PCEP: Certified Entry-Level Python Programmer
PCAP: Certified Associate in Python Programming

Quick Links
Course Page
Course Demos (Available for select courses)
List of All Courses (Includes language availability)

Head of the Department
Information Technology Engineering
Marwadi University

# JavaScript Essentials 1 (JSE)

## Course Overview

Learn how interactive web and mobile apps are created with JavaScript programming – and how to design, write, debug, and run your own programs! No prior programming knowledge is required.

## Benefits

Programming skills open you up to careers in almost any industry. These skills are required if you want to continue to more advanced and higher paying web, mobile app, or game development roles.

## Prepare for Careers

- ✓ Develop fundamental programming skills
- ✓ Prepare for JSE certification exam
- ✓ Build your foundation to pursue more specialized networking and software development skills

## Course Details

**Target Audience:** Secondary, 2-year and 4-year college students

**Estimated Time to Completion:** 40 hours

**Prerequisites:** None

**Course Delivery:** Instructor-led or Self-paced

**Learning Component Highlights:**
- ✓ 6 Modules
- ✓ Interactive Activities
- ✓ Module Exams and Quizzes
- ✓ Labs
- ✓ Final Exam

**Course Recognitions:** Statement of Achievement

**Recommended Next Course:**
DevNet Associate

In partnership with OPENEDG


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: No

**Certification Aligned**
JSE: Certified Entry-Level JavaScript Programmer

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

L. Pak

# CLA: Programming Essentials in C

## Course Overview

This beginner course introduces the the universal concepts of computer programming using the C language, and teaches the syntax, semantics, and data types of the C language.

## Benefits

Build transferable skills. When you learn C, you develop overarching fundamentals for all programming languages. Practice your skills through hands-on labs and write your own programs!

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CLA certification exam
- ✓ Fulfill prerequisites to pursue more advanced programming skills

## Course Details

Target Audience: Secondary, 2-year and 4-year college students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 9 modules of interactive instructional content
- ✓ 80+ practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:
Internet of Things (IoT) Fundamentals, CCNA, NDG Linux Essentials

In partnership with OPENEDG


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

**Certification Aligned**
CLA: C Programming Language Certified Associate

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

# CLP: Advanced Programming in C

## Course Overview

This advanced course teaches intermediate to advanced coding such as C handling variable number of parameters (<stdarg.h>), low level IO (<unistd.h>), memory and strings (<string.h> et al.), processes and threads, floats and ints (<math.h>, <fenv.h>, <inttypes.h> et al), and network sockets.

## Benefits

Extend your programming knowledge and proficiency. Learn to think harder and deeper about programming concepts.

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CLP certification exam
- ✓ Set yourself up to succeed in jobs related to software development, network engineering, and system administration

## Course Details

Target Audience: 2-year and 4-year college and university students

Estimated Time to Completion: 70 hours

Prerequisites: CLA: Programming Essentials in C course, CLA certification, or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 8 modules of interactive instructional content
- ✓ 18 practice labs
- ✓ Quizzes, chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:
Internet of Things (IoT) Fundamentals, NDG Linux I

In partnership with OPENEDG

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

**Certification Aligned**
CLP: C Certified Professional Programmer

L.P.Dh

# CPA: Programming Essentials in C++

## Course Overview

This beginner course introduces the basics of programming in the C++ language and the fundamental notions and techniques used in object-oriented programming.

## Benefits

Build transferable skills. When you learn C, you develop overarching fundamentals for all programming languages. Practice your skills through hands-on labs and write your own programs!

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CPA certification exam
- ✓ Fulfill prerequisites to pursue more advanced programming skills

## Course Details

Target Audience: Secondary, 2-year and 4-year college students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 8 modules of interactive instructional content
- ✓ 100+ practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:
Internet of Things (IoT) Fundamentals, NDG Linux Essentials, DevNet Associate

In partnership with OPENEDG


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

**Certification Aligned**
CPA: C++ Certified Associate Programmer

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

# CPP: Advanced Programming in C++

## Course Overview

This advanced course teaches intermediate to advanced coding such as C++ template mechanism, understanding and using property template classes and methods, and the C++ STL library including solving common programming problems and the IO part.

## Benefits

Extend your programming knowledge and proficiency. Learn to think harder and deeper about programming concepts.

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CPP certification exam
- ✓ Set yourself up to succeed in jobs related to software development, network engineering, and system administration

## Course Details

Target Audience: 2-year and 4-year college and university students

Estimated Time to Completion: 70 hours

Prerequisites: CPA: Programming Essentials in C++ course, CPA certification, or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 9 modules of interactive instructional content
- ✓ 65 practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:
CCNP Enterprise, NDG Linux I

In partnership with OPENEDG


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

**Certification Aligned**
CPP: C++ Certified Professional Programmer

Quick Links

Course Page

Course Demos
(Available for select courses)

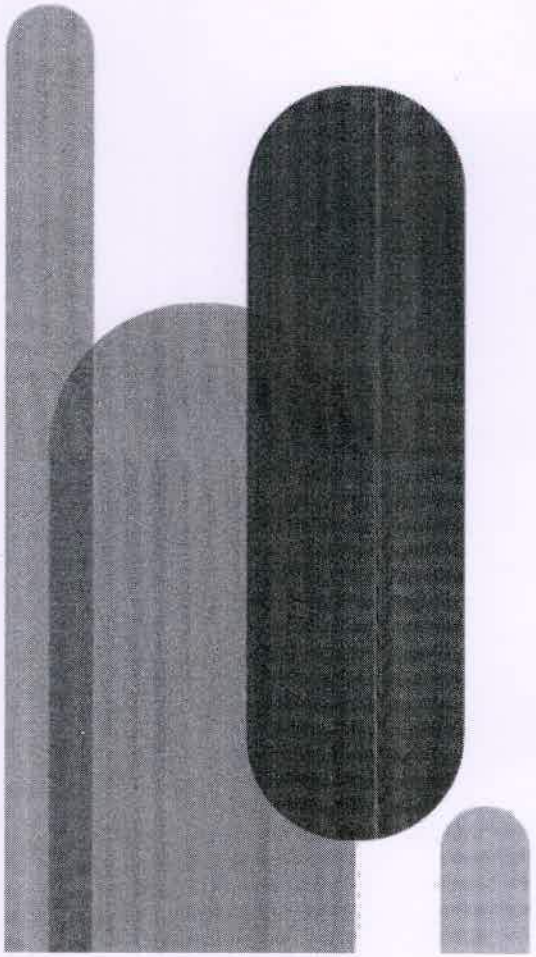
List of All Courses
(Includes language availability)

L. P. Dale

Head of the Department
Information Technology Engineering
Marwadi University

# Programmable Infrastructure

## Internet of Things



# Introduction to Internet of Things (IoT)

## Course Overview

An introduction to the Internet of Things and how it enables Digital Transformation along with emerging technologies such as data analytics, artificial intelligence, and cybersecurity.

The course also highlights the importance of Intent-Based Networking using a software-driven approach and machine learning to be able to connect and secure tens of billions of new devices with ease.

## Benefits

Gain a comprehensive view of how emerging technologies are shaping the digital business.

## Explore Opportunities in Technology

- ✓ Develop your digital basics
- ✓ Explore the career opportunities in this new emerging technologies landscape

## Course Details

Target Audience: Secondary, vocational, 2-year college, and general audience

Estimated Time to Completion: 20 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 6 chapters
- ✓ 17 practice labs (plus 4 optional labs)
- ✓ 7 Cisco Packet Tracer activities
- ✓ 40+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Digital Badge

Recommended Insertion Points:
A great start for any learning path, and way to introduce the digital transformation before or during any Career course

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
  (Optional labs require additional hardware)
- Discount Availability: Not Applicable

PT **Hands-on practice with Cisco Packet Tracer**

# IoT Fundamentals: Connecting Things

## Course Overview

This highly hands-on course introduces how to securely interconnect sensors, actuators, microcontrollers, single-board computers, and cloud services over Internet Protocol (IP) networks to create an end-to-end IoT system.

## Benefits

Develop the interdisciplinary skillset required to prototype an IoT solution for a specific business case with a strong focus on the security considerations for emerging technologies.

## Prepare for Careers

- ✓ Develop an entrepreneurial and design-thinking foundation for IoT job families that exist today and in the future
- ✓ Practice integrating hardware, software, data analytics, and security concepts
- ✓ Build your foundation to pursue more specialized networking, software development, and IoT skills

## Course Details

Target Audience: Secondary, vocational, 2-year and 4-year college, 4-year university students

Estimated Time to Completion: 40-50 hours

Prerequisites: Basic programming, networking, and electronics

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 6 chapters and 35 practice labs
- ✓ 9 Cisco Packet Tracer activities
- ✓ 32+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Next Course:
IoT Fundamentals: Big Data & Analytics or Hackathon Playbook (Design Thinking)

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional (Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

**Hands-on practice with Prototyping Lab**

# IoT Fundamentals: Big Data & Analytics

## Course Overview

This highly hands-on course introduces how to use Python data libraries to create a pipeline to acquire, transform and visualize data collected from IoT sensors and machines.

## Benefits

The transformative element of any IoT system is the data that can be collected from it. The ability to extract data and using data analytics techniques to gain insights are skills highly-valued by employers.

## Prepare for Careers

- ✓ Develop entrepreneurial and design-thinking skills for IoT job families that exist today and in the future
- ✓ Practice integrating hardware, software, data analytics, and security concepts
- ✓ Build your foundation to pursue more specialized networking, software development, and IoT skills

## Course Details

Target Audience: 2-year and 4-year college, 4-year university students

Estimated Time to Completion: 40-50 hours

Prerequisites: IoT Fundamentals: Connecting Things

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 6 chapters and 11 practice labs
- ✓ 18 Jupyter Notebooks (with Python code)
- ✓ 35+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

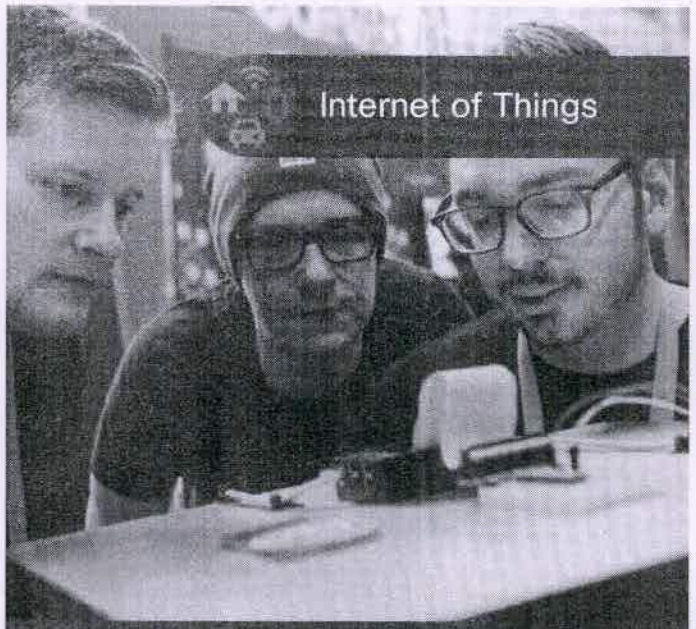
Recommended Next Course:
IoT Fundamentals: Hackathon Playbook

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional (Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

**Hands-on practice with Prototyping Lab**

K. Rah
Head of the Department
Information Technology Engineering
Marwadi University

# Hackathon Playbook (Design Thinking)

## Course Overview

The Hackathon Playbook is a comprehensive framework of tools and templates to prepare and run a Hackathon as a result of best practices and lessons-learned collected from the global execution of IoT Hackathons within Networking Academy and by other organizers.

## Benefits

Practice design thinking through a hands-on project. Deepen your multidisciplinary IoT and data skills by defining, designing, prototyping, and presenting an IoT solution to a panel of industry experts and peers.

## Prepare for Careers

- ✓ Build a design thinking mindset
- ✓ Gain resume-worthy experience working on a real prototype
- ✓ Get feedback and mentorship from industry experts

## Course Details

Target Audience: Secondary, vocational, 2-year and 4-year college, 4-Year university students

Estimated Time to Completion: 20-30 hours

Prerequisites: IoT Fundamentals: Connecting Things and/or Big Data and Analytics

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ Hands-on project

Course Recognitions: Certificate of Completion

Recommended Next Course:
Any Networking Academy Career course, or an industry IoT training program

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

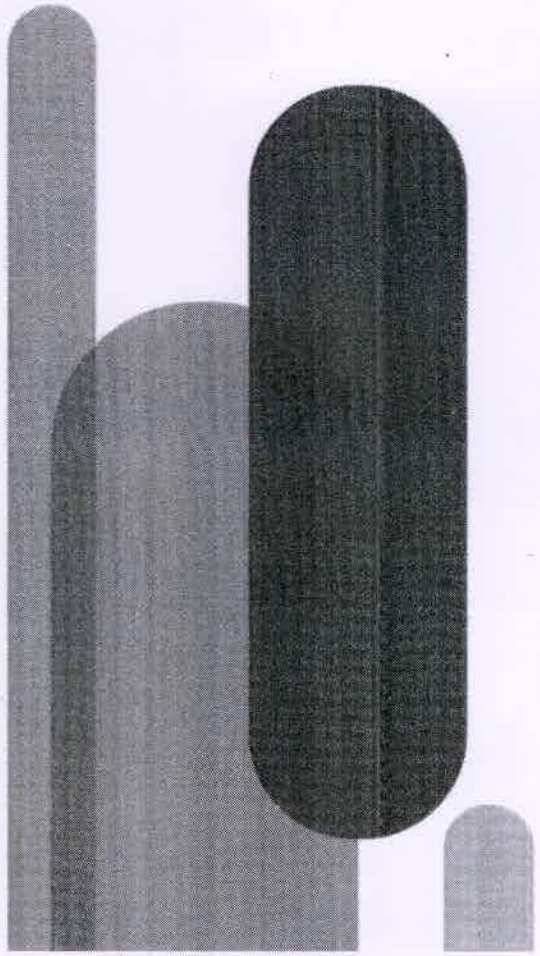

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
  (Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

**Hands-on practice with Prototyping Lab**

# Programmable Infrastructure

## Infrastructure Automation



# DevNet Associate

## Course Overview

This course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360° view of the domain including microservices, testing, containers and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs).

## Benefits

Gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines, and automating infrastructure using code.

## Prepare for Careers

- ✓ Develop skills for entry-level software development and infrastructure automation jobs
- ✓ Prepare for DevNet Associate certification exam

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students and participants of coding bootcamps

Estimated Time to Completion: 70 hours

Recommended Preparation:
Object-oriented coding skills, equivalent to:
PCAP: Programming Essentials in Python
Fundamental skills of networking, equivalent to:
CCNA: Introduction to Networks

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 8 modules and 23 practice labs
- ✓ 5 Cisco Packet Tracer activities
- ✓ 6 videos, 8 quizzes, 8 module exams
- ✓ 1 final exam, 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

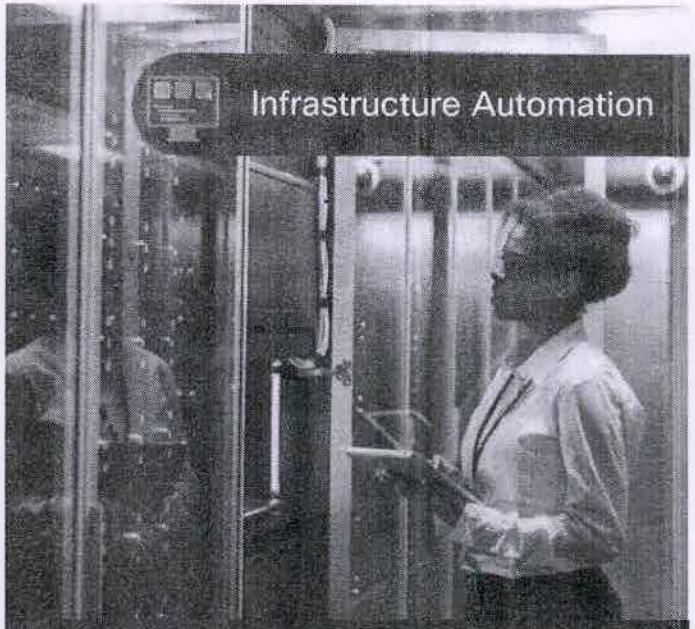
Recommended Next Course: CCNA, CCNP Enterprise, or CyberOps Associate

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: No (Uses Virtual Machines on the student's computer)
- Discount Availability: Yes

**Certification Aligned**
Cisco Certified DevNet Associate

# Workshop: Experimenting with REST APIs using Webex Teams

## Course Overview

This workshop introduces the basic competencies needed to create applications and automate tasks using REST APIs, the most popular architecture for software integration in IT.

## Benefits

Learn the value of the REST APIs architecture, practice Python programming skills, and perform basic software integration and automation using real-world APIs on an enterprise collaboration platform (Webex Teams).

## Prepare for Careers

- ✓ Emerging Technologies Workshops are short, hands-on experiences to quickly develop new skills for today's job market
- ✓ Participate in relevant professional communities of practice (Cisco DevNet, GitHub, and Stack Overflow)

## Course Details

Target Audience: Vocational, 2-year and 4-year College, 4-Year University students

Estimated Time to Completion: 8 hours

Prerequisites: Basic programming

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 2 chapters and 9 practice labs
- ✓ 13 interactive activities
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Insertion Points:
PCAP Programming Essentials in Python,
IoT Fundamentals: Connecting Things

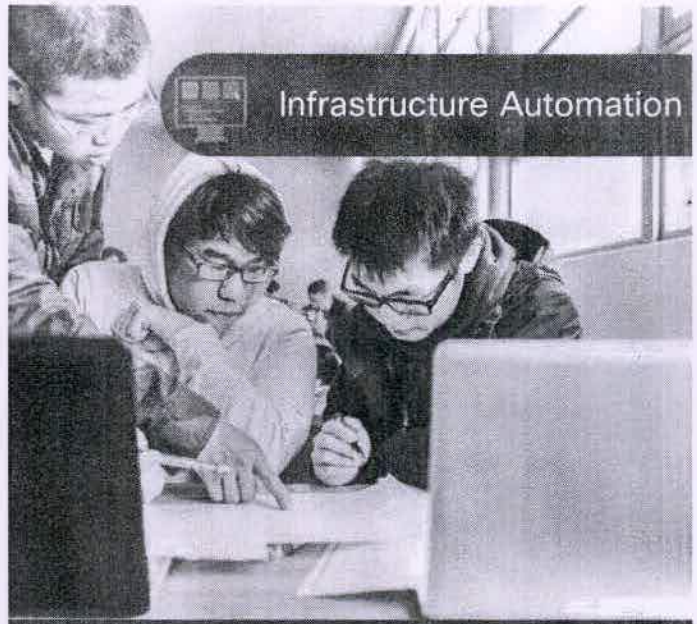
Other Insertion Points:
IT Essentials, CCNA: Introduction to Networks

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No
  (Self-paced training option available)
- Physical Equipment Required: Internet access to Cisco DevNet Labs and APIs (Free)
- Discount Availability: Not Applicable

**DevNet Sandbox**
Practice running code on live network infrastructure

Head of the Department
Information Technology Engineering
Marwadi University

# Workshop: Model-Driven Programmability

## Course Overview

This workshop introduces students to device level programmability. By defining standardized device models and APIs, network device configuration and management tasks can be automated, making it easier to manage network devices at scale.

## Benefits

Learn key model-driven programmability concepts: YANG to model networking devices, RESTCONF and NETCONF for device-level APIs, and Python scripting to programmatically retrieve and update device configurations.

## Prepare for Careers

- ✓ Emerging Technologies Workshops are short, hands-on experiences to quickly develop new skills for today's job market
- ✓ Participate in relevant professional communities of practice (Cisco DevNet, GitHub, and Stack Overflow)

## Course Details

Target Audience: Vocational, 2-year and 4-year College, 4-year university students

Estimated Time to Completion: 8 hours

Prerequisites: Basic programming, CCNA: Switching, Routing, and Wireless Essentials (SRWE) or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 2 chapters and 10 practice labs
- ✓ 10 interactive activities
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Digital Badge

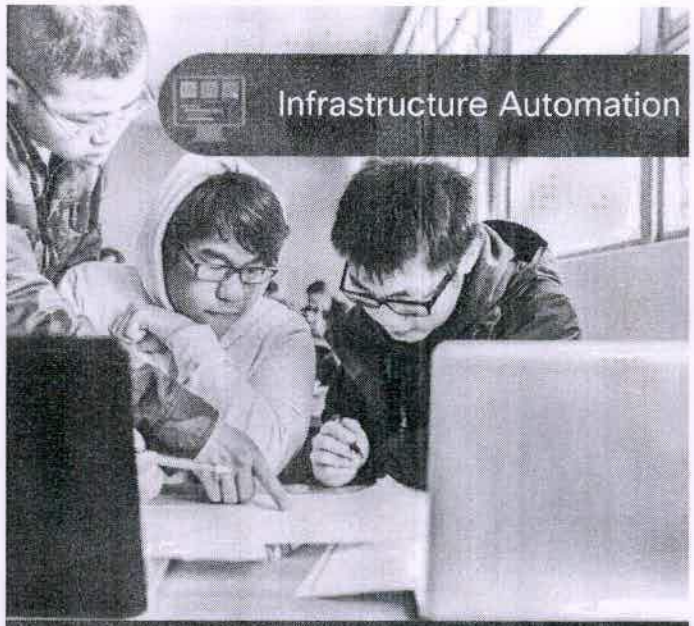
Recommended Insertion Points:
- After CCNA: SRWE
- With Network Security or CCNP Enterprise: Core Networking (ENCOR)

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)



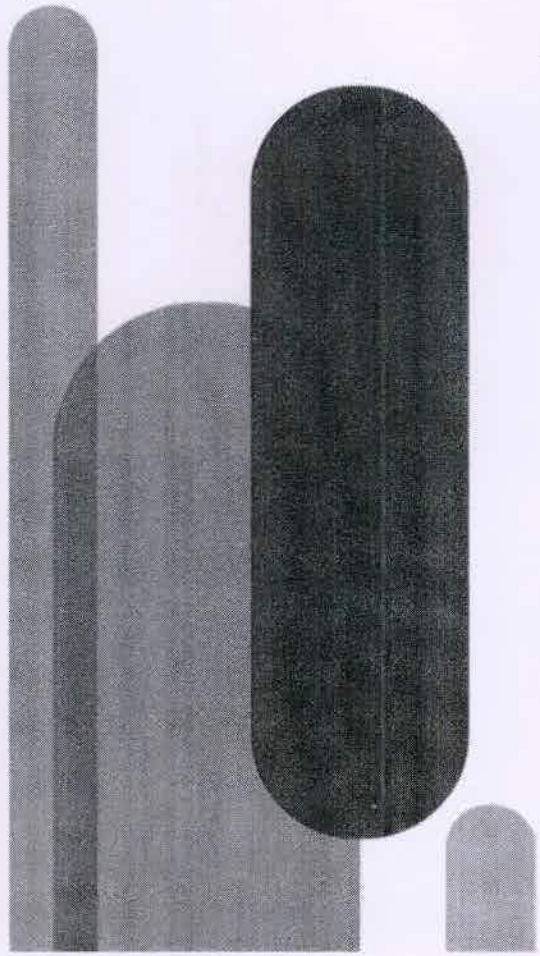

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No (Self-paced training option available)
- Physical Equipment Required: Internet access to Cisco DevNet Labs and APIs (Free)
- Discount Availability: Not Applicable

**DevNet Sandbox**
Practice running code on live network infrastructure

L.P.D.

# Cybersecurity



# Introduction to Cybersecurity

## Course Overview

This course explores cyber trends, threats, and staying safe in cyberspace, and protecting personal and company data.

## Benefits

Today's interconnected world makes everyone more susceptible to cyber-attacks. Learn how to protect your personal data and privacy online and in social media, and why more and more IT jobs require cybersecurity awareness and understanding.

## Explore Opportunities in Technology

- ✓ Explore the world of cybersecurity and how it relates to YOU
- ✓ Develop your cybersecurity basics for a secure and safe digital life
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: Secondary and 2-Year college students, general audience

Estimated Time to Completion: 15 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 5 modules and 7 practice labs
- ✓ Interactive activities & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Digital Badge

Recommended Next Course:
Cybersecurity Essentials

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

**Career Advice**
Tips for getting started in your career

L. P. Sh

Head of the Department
Information Technology Engineering
Marwadi University

# Cybersecurity Essentials

## Course Overview

This course covers essential knowledge for all cybersecurity domains including information security, systems security, network security, ethics and laws, and defense and mitigation techniques used in protecting businesses.

## Benefits

The demand for security professionals continues to grow. Develop a foundational understanding of cybercrime, security principles, technologies, and procedures used to defend networks.

## Prepare for Careers

- ✓ Build your cybersecurity foundation
- ✓ Take the next step in exploring the many career possibilities in cybersecurity
- ✓ See if you want to pursue job roles in networking or cybersecurity

## Course Details

Target Audience: Secondary and 2-year college vocational students

Estimated Time to Completion: 30 hours

Recommended Preparation: Introduction to Cybersecurity

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 8 chapters and 12 practice labs
- ✓ 10 Cisco Packet Tracer activities
- ✓ 40+ interactive activities & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Digital Badge

Recommended Next Course:
CyberOps Associate, Cloud Security, Network Security, or IoT Security


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: No (Uses Virtual Machines on the student's computer)
- Discount Availability: Yes

**Career Advice**
Tips for getting started in your career

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

L.P.A

# CyberOps Associate

## Course Overview

This course introduces the core security concepts and skills needed to monitor, detect, analyze, and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations.

## Benefits

Gain practical, hands-on skills needed to maintain and ensure security operational readiness of secure networked systems.

## Prepare for Careers

- ✓ Develop skills for entry-level security operations center (SOC) jobs
- ✓ Prepare for CyberOps Associate certification
- ✓ Pursue a career in cybersecurity operations, a rapidly-growing, exciting new area that spans all industries

## Course Details

Target Audience: Students enrolled in technology degree programs at higher education institutions; IT professionals who wants to pursue a career in Security Operations

Estimated Time to Completion: 70 hours

Recommended Preparation: Introduction to Cybersecurity, Cybersecurity Essentials

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 28 chapters and 46+ practice labs
- ✓ 6 Cisco Packet Tracer activities
- ✓ 113 interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
Cloud Security, Network Security, IoT Security


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: No (Uses Virtual Machines on the student's computer)
- Discount Availability: Yes

**Certification Aligned**
Cisco Certified CyberOps Associate

Quick Links — Course Page — Course Demos (Available for select courses) — List of All Courses (Includes language availability)

# Cloud Security

## Course Overview

This course introduces the fundamentals of cloud computing and skills needed to secure an organization in the cloud.

## Benefits

Learn the methods and tools to design, build, and maintain a secure cloud business environment.

## Prepare for Careers

- ✓ Develop skills for entry-level cloud security positions
- ✓ Prepare for Certificate of Cloud Security Knowledge (CCSK) exam
- ✓ Pursue a career in cloud security, an in-demand, exciting new area that spans all industries

## Course Details

Target Audience: Learners enrolled in technology degree programs at higher education institutions; IT professionals who want to pursue a career in Cloud Security

Estimated Time to Completion: 35 hours

Recommended Preparation: Introduction to Cybersecurity, Cybersecurity Essentials

Course Delivery: Online self-paced (with instructor mentorship)

Learning Component Highlights:
- ✓ 6 modules
- ✓ 20+ videos
- ✓ 10 interactive activities
- ✓ 37 quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of attendance

Recommended Next Course:
CyberOps Associate, Network Security, IoT Security


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

CCSK

**Certificate Aligned**
Certificate of Cloud Security Knowledge (CCSK)

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

# Network Security

## Course Overview

This course introduces the core security concepts and skills needed to configure and troubleshoot computer networks and help ensure the integrity of devices and data.

## Benefits

Gain practical, hands-on skills to design, implement, and manage network security systems and ensure their integrity.

## Prepare for Careers

- ✓ Build expertise in network security and data protection
- ✓ Develop skills for entry-level network security specialist roles
- ✓ Gain industry in-demand skills aligned with the National Institute for Standards and Technology (NIST) Cybersecurity Framework

## Course Details

Target Audience: 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Recommended Preparation: Basic understanding of computer networks (CCNA: Introduction to Networks and CCNA: Switching, Routing, and Wireless Essentials, or equivalent)

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 22 modules and 25 practice labs
- ✓ 22 Cisco Packet Tracer activities
- ✓ 87+ interactive activities, videos, and quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

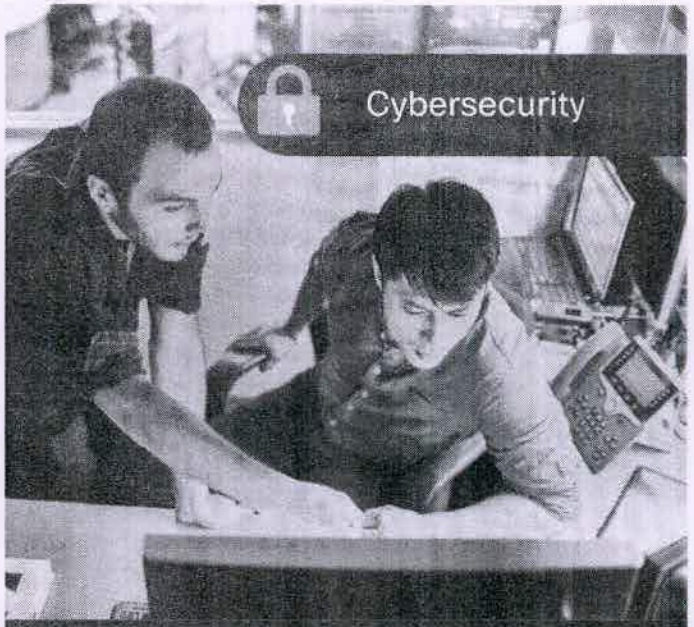
Recommended Next Course: CyberOps Associate, Cloud Security, IoT Security

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

PT **Hands-on practice with Cisco Packet Tracer**

L.P.Rah

Head of the Department
Information Technology Engineering
Marwadi University

# IoT Security

## Course Overview

The explosive growth of connected IoT devices also increases the exposure to security threats. Learn to perform vulnerability and risk assessments, and research and recommend risk mitigation strategies for common security threats in IoT systems.

## Benefits

Learn practical tools for evaluating security vulnerabilities, perform threat modeling, and recommend threat mitigation measures. Gain hands-on, transferable skills relevant across IoT and other network architectures.

## Prepare for Careers

- ✓ Develop skills for entry-level roles in the rapidly growing IoT and security domains
- ✓ Increase awareness of emerging technologies in the IoT Security space, such as Blockchain

## Course Details

Target Audience: Vocational, 2-year and 4-year College, 4-Year University students

Estimated Time to Completion: 50 hours

Prerequisites:
- IoT Fundamentals: Connecting Things
- Networking Essentials and Cybersecurity Essentials (or equivalent)

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 6 chapters and 24 practice labs
- ✓ 5 Cisco Packet Tracer activities
- ✓ 50+ interactive activities, videos, & quizzes
- ✓ 1 hands-on capstone activity
- ✓ 1 IoT Security game with 10 missions
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Next Course:
CyberOps Associate, Cloud Security, Network Security


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional
- Physical Equipment Required: Yes
- Discount Availability: Yes

**Features the IoT Security Game!**

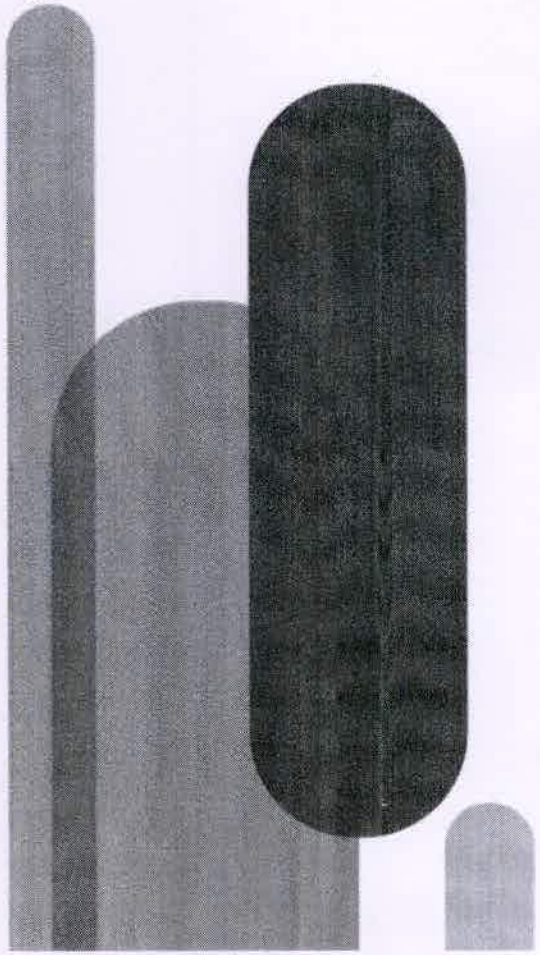
Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

# Additional Courses



# Entrepreneurship

## Course Overview

This course teaches business and financial skills, behaviors, and attitudes, to help students develop an entrepreneurial mindset. Students learn by completing a series of interactive case studies that present realistic scenarios.

## Benefits

Supplement your technical expertise with with entrepreneurial thinking, business development, and financial management skills.

## Explore Opportunities in Technology

- ✓ Explore how to think like an entrepreneur
- ✓ Expand your mindset and employability with skills complementary to IT expertise
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: General audience

Estimated Time to Completion: 15 hours

Recommended Preparation:
CCNA: Introduction to Networks

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 7 modules with interactive, online case studies

Course Recognitions: Certificate of Completion

Recommended Next Course:
Hackathon Playbook (Design Thinking)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

**Career Advice**
Tips for getting started in your career

Quick Links

Course Page

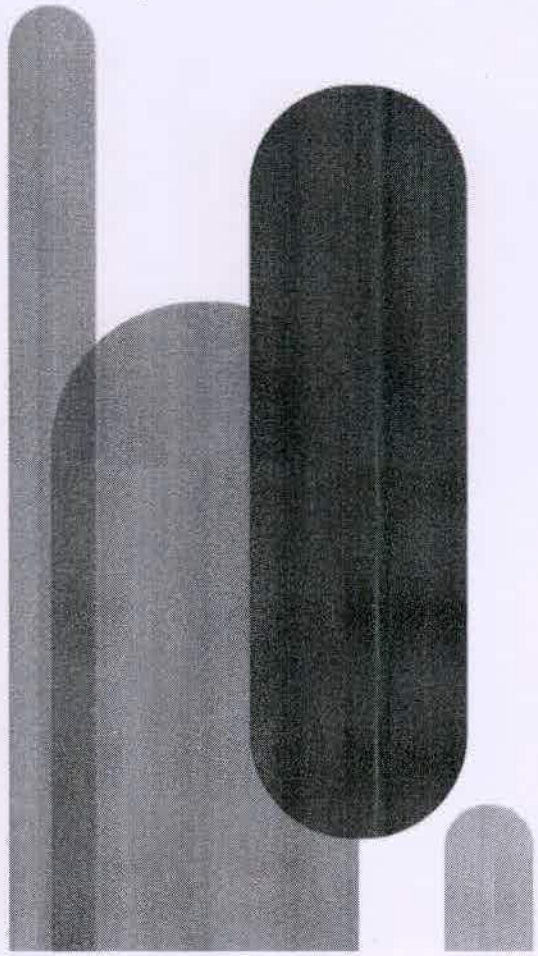
Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)

L.P.al

# Practice

Hands-on tools & interactive experiences
to build skills, not just knowledge



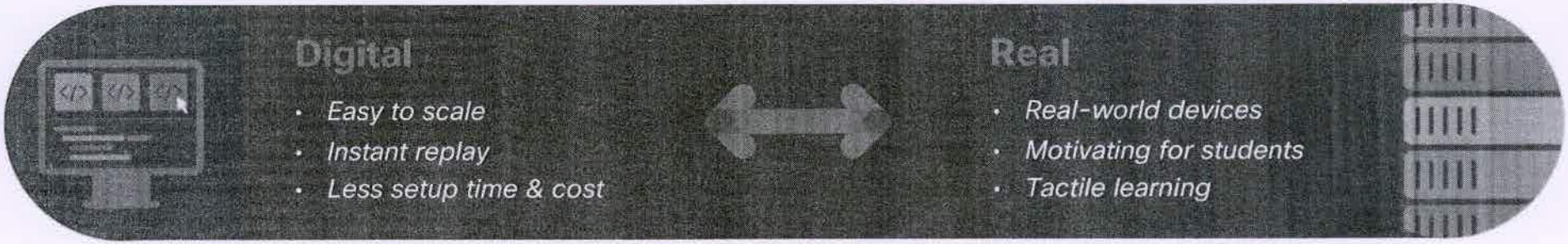
# Hands-On Practice

## A key pillar of Networking Academy

- Motivate your students with exciting experiences that make learning very real
- Accelerate and optimize each student's path to career-ready skills
- Build student confidence: "I can do this!"
- Developed by learning scientists & subject-matter experts

# A Suite of Lab Environments

## Options ranging from simulation to physical hardware





**Simulation with Packet Tracer**

**Virtualized Equipment**

**Virtual Machines**

**Prototyping Lab**

**Remote Equipment**

**Physical Hardware**

Head of the Department
Information Technology Engineering
Marwadi University

# Cisco Packet Tracer

## Overview

Cisco Packet Tracer is a powerful simulation and visualization learning environment. Practice building simple and complex networks across a variety of devices and extend beyond routers and switches.

## Benefits

Teach complex concepts without complex hardware. Leverage the versatility of simulation for lectures, labs, games, homework, assessments, competitions, and distance learning.

## Build Skills for Success

- ✓ Quickly try, experiment, learn, repeat
- ✓ Practice teamwork, critical thinking and creative problem solving skills
- ✓ Integration with online assessment engine prepares students for hands-on assessments

## Details

Use it to:

- Create and configure your own networks
- Practice cabling your devices in the rack with Physical Mode
- See how packets travel through your network with Simulation Mode
- Program your own IoT smart solution
- And more!

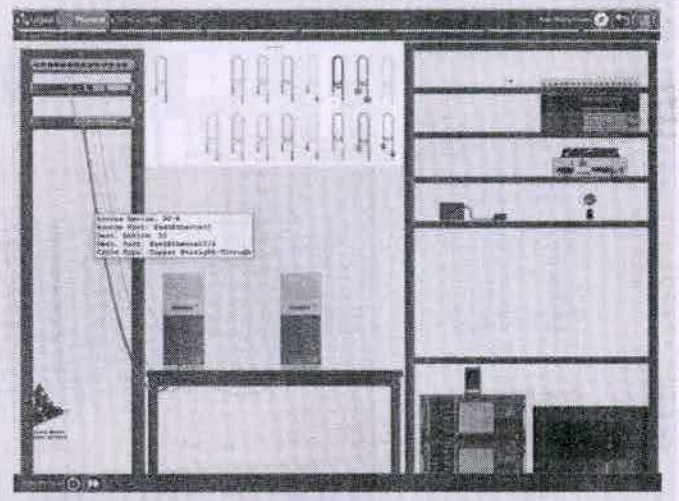
How to Access:
Enroll in Introduction to Packet Tracer course to download desktop version

Courses that use Packet Tracer include:

- Networking Essentials
- Cybersecurity Essentials
- IT Essentials
- CCNA
- CyberOps Associate
- DevNet Associate
- CCNP Enterprise
- Introduction to Internet of Things (IoT)
- IoT Fundamentals: Connecting Things
- IoT Security
- Network Security

Quick Links [Packet Tracer Landing Page] [Introduction to Packet Tracer Course Page] [Teaching with Packet Tracer]

PT Practice



## Requirements & Resources

- Cost: Free

Hands-on tools & interactive experiences to build skills, not just knowledge

# Introduction to Packet Tracer

## Course Overview

The Introduction to Packet Tracer series is designed for new users of Packet Tracer for self-study and familiarization with the tool used in many Networking Academy courses. Packet Tracer courses are available for the desktop and for mobile (Android and iOS).

## Benefits

The Introduction to Packet Tracer series introduces tips and best practices to help instructors and students use Cisco Packet Tracer as an effective and engaging learning and assessment tool.

## Explore Opportunities in Technology

- ✓ Learn the power of simulation tools to build and investigate networks in software
- ✓ Get familiar using Cisco Packet Tracer, a key learning tool you will use in NetAcad courses

## Course Details

Target Audience: General audience

Estimated Time to Completion: 10 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:
- ✓ 8 chapters with instructional videos
- ✓ 13 Cisco Packet Tracer activities
- ✓ Sample files
- ✓ 2 quizzes

Course Recognitions: Certificate of Completion, Digital Badge

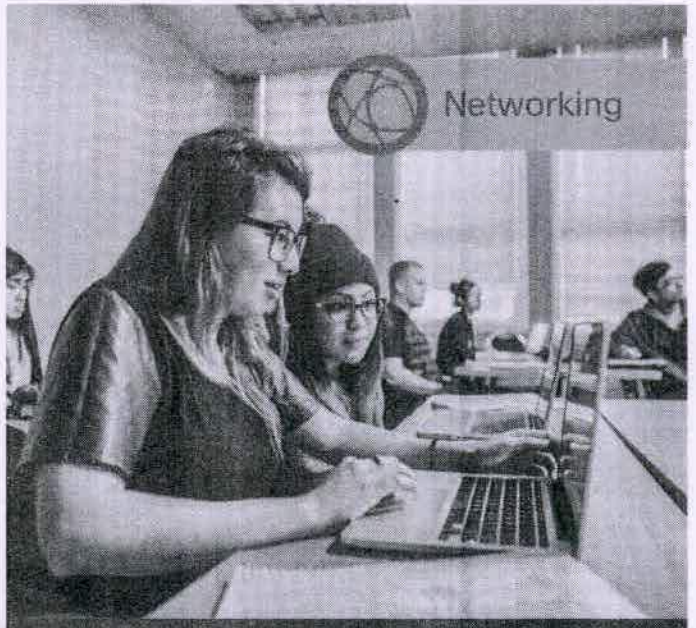
Recommended Next Course: Networking Essentials

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(Includes language availability)




## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

PT

**Hands-on practice with Cisco Packet Tracer**

L.Prah

# Virtual Machines (VM)

## Overview

Virtual machines are virtual environments that emulate a computer system. These self-contained virtual environments let students explore systems to the breaking point without causing actual damage.

## Benefits

Experiment and explore in a low-risk environment. Deliberately test security threats and malware in a safe environment.

## Build Skills for Success

- ✓ Hands-on cybersecurity practice
- ✓ Students become familiar with virtual machines to prepare for on-the-job skills

## Details

Use it to:

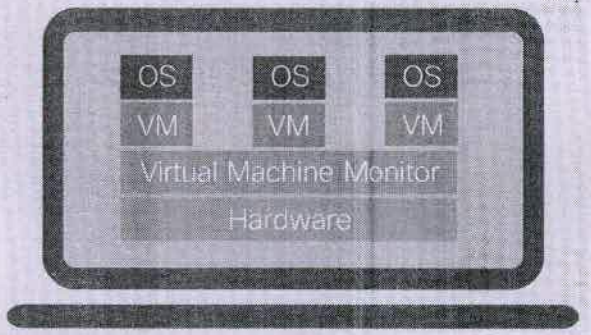
- Teach virtual machine technology
- Simulate real-world cybersecurity threat scenarios
- Create opportunities for ethical hacking, security monitoring, analysis, and resolution

How to Access:
Free software download from Oracle VirtualBox
https://www.oracle.com/virtualization/technologies/vm/downloads/virtualbox-downloads.html

Courses that use Virtual Machines include:

- CCNA
- CyberOps Associate
- Emerging Technologies Workshop: Model-Driven Programmability
- DevNet Associate

Practice




## Requirements & Resources

- Cost: Free

Hands-on tools & interactive experiences to build skills, not just knowledge

# Prototyping Lab (PL App)

## Overview

Dive into the world of sensors and connected things. The Prototyping Lab Kit uses a Raspberry Pi and Arduino setup to create an end-to-end IoT system on a lab table.

## Benefits

Lab setup is easy with low-cost hardware and app download. Use real devices & code to collect, analyze, and present data from the physical world.

## Build Skills for Success

- ✓ Spark entrepreneurial and systems thinking
- ✓ Students gain hands-on experience with an entire IoT system
- ✓ Build programming skills with Blockly visual programming or coding in Python

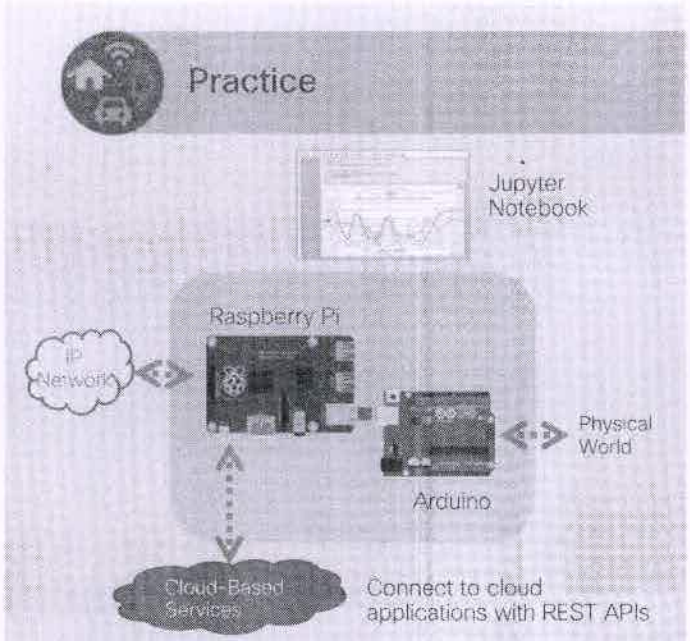
## Details

Use it to:
- Acquire physical data with Arduino
- Collect and analyze data on Raspberry Pi
- Visualize data with Jupyter Notebook
- Connect to cloud applications with REST APIs

How to Access:
Prototyping Lab is comprised of the Prototyping Lab Kit (hardware) and Prototyping Lab App (software).

Find the hardware list and software download links on the Resources page:
https://www.netacad.com/portal/resources/course-resources/cisco-prototyping-lab-resources

Courses that use Prototyping Lab include:
- IoT Fundamentals: Connecting Things
- IoT Fundamentals: Big Data & Analytics
- Hackathon Playbook (Design Thinking)
- IoT Security




## Requirements & Resources

- Cost: Yes (for hardware); Free software download

Hands-on tools & interactive experiences to build skills, not just knowledge

**Prototyping Lab Kit includes:**

- Raspberry Pi 3 CanaKit Ultimate Starter Kit (or equivalent)
- Cables, sensors, and actuators
- SparkFun Inventor's Kit for Arduino v3.2 (or equivalent)
- Prototyping Lab App

# Remote Equipment: NDG NETLAB+

## Overview

Connect to real hardware through the web. Available through Networking Academy partnerships:

NDG NETLAB+ provides cloud-based, remote access to networking equipment and PCs.

## Benefits

Reduce your setup time for complex labs with on-demand remote access to lab equipment when you need it.

## Build Skills for Success

- ✓ Provide practice opportunities for students to complete labs from anywhere
- ✓ Supplement your lab offerings when physical hardware is not available at your institution

## Details

Use it to:

- Access remote IT equipment through a web browser
- Reduce your lab setup time

How to Access:
Learn more at the NDG NETLAB+ page for Networking Academy.
https://www.netdevgroup.com/content/cnap/

Courses that use Remote Equipment include:

- CCNA
- CCNP Enterprise
- IT Essentials
- CyberOps Associate
- Network Security

Practice

In partnership with

NDG NETLAB+

## Requirements & Resources

- Cost: Yes

Hands-on tools & interactive experiences to build skills, not just knowledge

Head of the Department
Information Technology Engineering
Marwadi University

# Remote Equipment: DevNet Sandbox

## Overview

Connect to real hardware through the web. Available through Networking Academy partnerships:

Cisco DevNet Sandbox offers packaged labs for software development, testing APIs, training, hackathons, and more.

## Benefits

Reduce your setup time for complex labs with on-demand remote access to lab equipment when you need it.

## Build Skills for Success

- ✓ Students get experience running their code against live network infrastructure
- ✓ Practice working in a sandbox environment just like on-the-job software developers

## Details

Use it to:

- Interact with live network infrastructure and programmable devices using real-world Application Programming Interfaces (APIs)

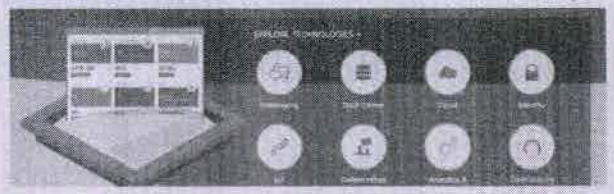
How to Access:
Learn more at the Cisco DevNet Sandbox page
https://developer.cisco.com/site/sandbox/

Courses that use Remote Equipment include:

- Workshop: Experimenting with REST APIs
- Workshop: Model-Driven Programmability
- DevNet Associate

Practice

DEVNET DevNet Sandbox



## Requirements & Resources

- Cost: Free

Hands-on tools & interactive experiences to build skills, not just knowledge

# Physical Hardware

## Overview

Bring the real world inside the classroom so students can practice physical, sensory skills. Seeing and exploring with real equipment makes the abstract more tangible.

## Benefits

Excite learners to consider career pathways in networking technology, and increase retention through tactile learning.

## Build Skills for Success

- ✓ Provide hands-on practice with the same devices found in the work environment
- ✓ Students gain real experience even before on-the-job training
- ✓ Build transferable, career-ready skills

## Details

How to Access:

1. Contact a local Cisco Reseller Partner for pricing and order fulfillment. Use Partner Finder to find one near you.
2. Consider working with an Academy Support Center (ASC) who can help you choose the best way to secure equipment needed for your location. They may offer loaner equipment or used equipment options

Courses that use Physical Hardware include:

- Networking Essentials
- IT Essentials
- CCNA
- CCNP Enterprise
- Network Security
- IoT Security


## Requirements & Resources

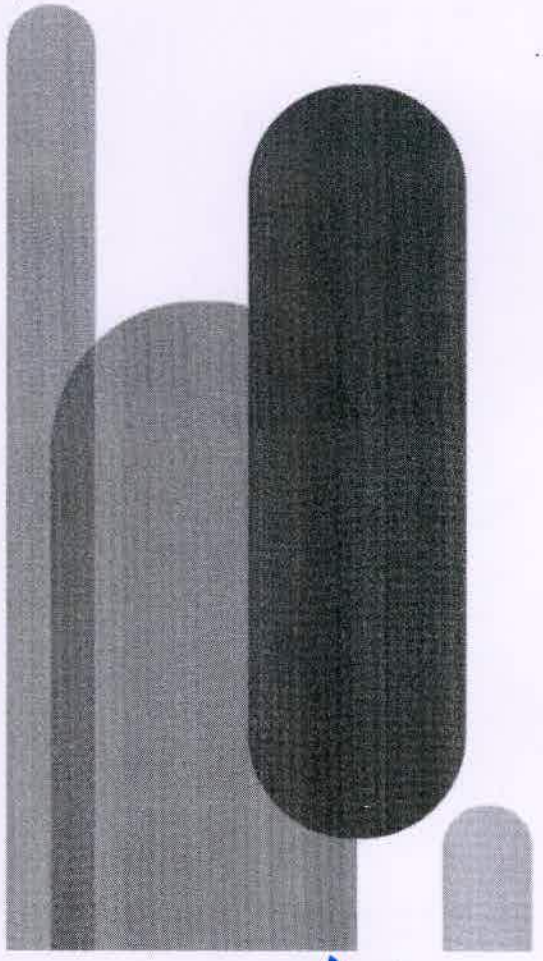
- Cost: Yes

## Discounts

Equipment discounts are available for Networking Academy institutions. Available for Cisco equipment needed for Networking Academy courses and labs when purchased through a Cisco Reseller Partner.

Hands-on tools & interactive experiences to build skills, not just knowledge

# Language Availability



11.04.2021

# Explore Course Languages

| Explore Courses | Arabic | Azerbaijani | Chinese-Simplified | Chinese-Traditional | Croatian | Dutch | English | French | Georgian | German | Greek | Hebrew | Hindi | Hungarian | Indonesian | Italian | Japanese | Kazakh | Korean | Polish | Portuguese-Brazil | Portuguese-Portugal | Romanian | Russian | Spanish | Turkish | Ukrainian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Entrepreneurship | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | ✓ | | | | ✓ | | | | | ✓ | | | | ✓ | | |
| Get Connected | | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | | ✓ | | | ✓ | | | | | ✓ | ✓ | | | ✓ | | |
| Introduction to Cybersecurity | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Introduction to IoT / Introduction to IoE | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ |
| Introduction to Packet Tracer | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | ✓ |
| Networking Essentials 1.0 | ✓ | | ✓ | | | | ✓ | ✓ | | ✓ | | | | | | | ✓ | | | | ✓ | | | ✓ | ✓ | | |
| NDG Linux Unhatched | | | | | | | ✓ | ✓ | | ✓ | | | | | | ✓ | | | | | ✓ | | | | ✓ | | |

Head of the Department
Information Technology Engineering
Marwadi University

11.04.2021

# Career Course Languages

| Career Courses | Arabic | Azerbaijani | Chinese - Simplified | Chinese - Traditional | Croatian | Dutch | English | French | Georgian | German | Greek | Hebrew | Hindi | Hungarian | Indonesian | Italian | Japanese | Kazakh | Korean | Polish | Portuguese - Brazil | Portuguese - Portugal | Romanian | Russian | Spanish | Turkish | Ukrainian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCNA: Introduction to Networks | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| CCNA: Switching, Routing, and Wireless Essentials | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | | | | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| CCNA: Enterprise Networking, Security, and Automation | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | | | | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| CCNP Enterprise: Core Networking | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| CCNP Enterprise: Advanced Routing | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| Cybersecurity Essentials | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | | ✓ |
| DevNet Associate | | | ✓ | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | ✓ | | |
| CyberOps Associate | | | ✓ | | | | ✓ | ✓ | | | | | | | | | | | | | ✓ | | | | ✓ | | |
| CCNA R&S: Introduction to Networks* | | | | ✓ | ✓ | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | | | ✓ | | | ✓ | |
| CCNA R&S: Routing and Switching Essentials* | | | | ✓ | ✓ | | | | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | | | ✓ | | | ✓ | | | ✓ | |
| CCNA R&S: Scaling Networks* | | | | | ✓ | | | | | | | | | ✓ | | | ✓ | | | ✓ | | | | | | ✓ | |
| CCNA R&S: Connecting Networks* | | | | | ✓ | | | | | | | | | ✓ | | | ✓ | | | ✓ | | | | | | ✓ | |
| CCNA Cybersecurity Operations* | | | ✓ | ✓ | | | | ✓ | | | | | | | | | ✓ | | | | | | | ✓ | ✓ | | |
| CCNA Security* | | | ✓ | | | | ✓ | | | | | | | | | | | | | | | | | ✓ | | | |

*Legacy Course

L. P. S.

11.04.2021

# Career Course Languages

| Career Courses | Arabic | Azerbaijani | Chinese – Simplified | Chinese – Traditional | Croatian | Dutch | English | French | Georgian | German | Greek | Hebrew | Hindi | Hungarian | Indonesian | Italian | Japanese | Kazakh | Korean | Polish | Portuguese – Brazil | Portuguese – Portugal | Romanian | Russian | Spanish | Turkish | Ukrainian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emerging Technologies Workshop - Experimenting with REST APIs using Webex Teams | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| Emerging Technologies Workshop - Model Driven Programmability | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| IoT Fundamentals: Big Data & Analytics | | | ✓ | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | ✓ | | |
| IoT Fundamentals: Connecting Things | | | ✓ | | | | ✓ | ✓ | | ✓ | | | | | | | | | | | | | | | ✓ | | ✓ |
| IoT Fundamentals: Hackathon Playbook | | | | | | | ✓ | | | | | | | | | | | | | | | | | | ✓ | | ✓ |
| IoT Fundamentals: IoT Security | | | ✓ | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| IT Essentials | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Network Security | | | | | | | ✓ | | | | | | | | | | | | | | ✓ | | | | | | |
| Networking Essentials 2.0 | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| NDG Linux Essentials | | | | | | | ✓ | | | | | | | | | | | | | | | | | | ✓ | | |
| PCAP - Programming Essentials in Python | | | | | | | ✓ | | | | | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ | |

11.04.2021

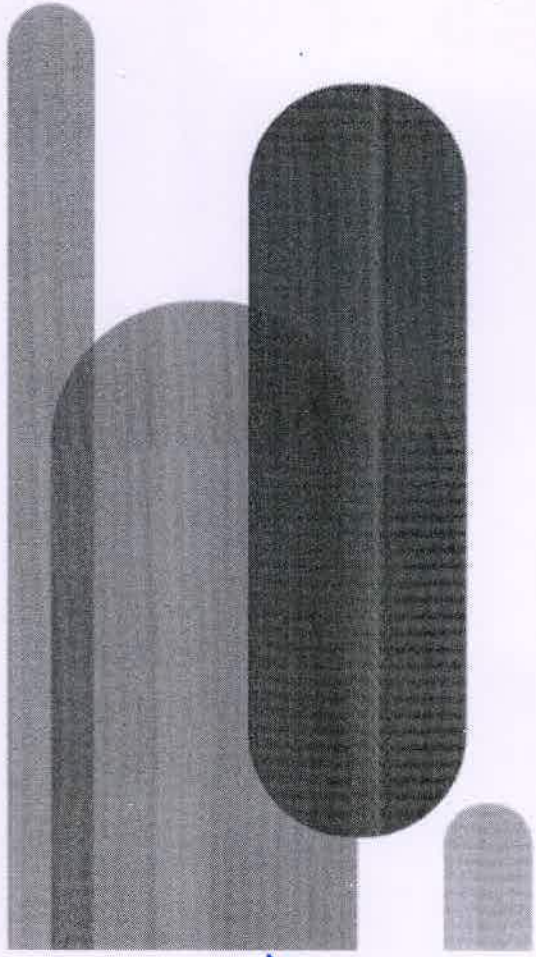
# Complementary Offerings Languages

| Complementary Courses | Arabic | Azerbaijani | Chinese-S | Chinese-T | Croatian | Dutch | English | French | Georgian | German | Greek | Hebrew | Hungarian | Italian | Japanese | Kazakh | Korean | Polish | Portuguese | Romanian | Russian | Spanish | Turkish | Ukrainian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JavaScript Essentials 1 (JSE) | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| NDG Linux I and II | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| CLA: Programming Essentials in C | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| CLP: Advanced Programming in C | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| CPA: Programming Essentials in C++ | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| CPP: Advanced Programming in C++ | | | | | | | ✓ | | | | | | | | | | | | | | | | | |

L. P.

# Quick Links

- Networking Academy Website – netacad.com
- Networking Academy Program Overview
- Helpful Program Resources, including NetAcad Program FAQ
- Course Demos (available for select courses)
- Employment Opportunities (Talent Bridge)
- Remote Teaching & Learning – Tools and Tips




Head of the Department
Information Technology Engineering
Marwadi University

# MTA: Introduction to Programming Using Java – Skills Measured

NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.

NOTE: In most cases, exams do NOT cover preview features, and some features will only be added to an exam when they are GA (General Availability).

## Exam 98-388: Introduction to Programming Using Java

### Understand Java fundamentals (15-20%)

**Describe the use of main in a Java application**

- signature of main, why it is static; how to consume an instance of your own class; command-line arguments

**Perform basic input and output using standard packages**

- print statements; import and use the Scanner class

**Evaluate the scope of a variable**

- declare a variable within a block, class, or method

### Work with data types, variables, and expressions (40-45%)

**Declare and use primitive data type variables**

- data types, including byte, char, int, double, short, long, float, boolean; identify when precision is lost; initialization; how primitives differ from wrapper object types such as Integer and Boolean

**Construct and evaluate code that manipulates strings**

- string class and string literals, comparisons, concatenation, case and length; String.format methods; string operators; converting a primitive data type to a string; the immutable nature of strings; initialization; null

**Construct and evaluate code that creates, iterates, and manipulates arrays and array lists**

- one- and two-dimensional arrays, including initialization, null, size, iterating elements, accessing elements; array lists, including adding and removing elements, traversing the list

**Construct and evaluate code that performs parsing, casting and conversion**

- implementing code that casts between primitive data types, converts primitive types to equivalent object types, or parses strings to numbers

**Construct and evaluate arithmetic expressions**

- arithmetic operators, assignment, compound assignment operators, operator precedence

## Implement flow control (15-20%)

**Construct and evaluate code that uses branching statements**

- if, else, else if, switch; single-line versus block; nesting; logical and relational operators

**Construct and evaluate code that uses loops**

- while, for, for each, do while; break and continue; nesting; logical, relational, and unary operators

## Perform object-oriented programming (10-15%)

**Construct and evaluate a class definition**

- constructors; constructor overloading; one class per .java file; this keyword; inheritance and overriding at a basic level

**Declare, implement, and access data members in a class**

- private, public, protected; instance data members; static data members; using static final to create constants; describe encapsulation

**Declare, implement, and access methods**

- private, public, protected; method parameters; return type; void; return value; instance methods; static methods; overloading

**Instantiate and use a class object in a program**

- instantiation; initialization; null; accessing and modifying data members; accessing methods; accessing and modifying static members; importing packages and classes

## Compile and debug code (5-10%)

### Troubleshoot syntax errors, logic errors, and runtime errors

- print statement debugging; output from the javac command; analyzing code for logic errors; console exceptions after running the program; evaluating a stack trace

### Implement exception handling

- try catch finally; exception class; exception class types; display exception information

# Exam 98-361: Software Development Fundamentals – Skills Measured

## Audience Profile

Candidates for this exam are seeking to prove core software development skills. It is recommended that candidates be familiar with the concepts of and have hands-on experience with the technologies described here either by taking relevant training courses or by working with tutorials and samples available on MSDN and in Microsoft Visual Studio. Candidates are expected to have some experience with C# or Microsoft Visual Basic .NET.

## Skills Measured

NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.

NOTE: In most cases, exams do NOT cover preview features, and some features will only be added to an exam when they are GA (General Availability).

## Understanding core programming (15-20%)

**Understand computer storage and data types**

- how a computer stores programs and the instructions in computer memory, memory stacks and heaps, memory size requirements for the various data storage types, numeric data and textual data

**Understand computer decision structures**

- various decision structures used in all computer programming languages; If decision structures; multiple decision structures, such as If...Else and switch/Select Case; reading flowcharts; decision tables; evaluating expressions

**Identify the appropriate method for handling repetition**

- For loops, While loops, Do...While loops, and recursion

**Understand error handling**

- structured exception handling

L. P. Desai

Head of the Department
Information Technology Engineering
Marwadi University

## Understanding object-oriented programming (20-25%)

### Understand the fundamentals of classes

- properties, methods, events, and constructors; how to create a class; how to use classes in code

### Understand inheritance

- inheriting the functionality of a base class into a derived class

### Understand polymorphism

- extending the functionality in a class after inheriting from a base class, overriding methods in the derived class

### Understand encapsulation

- creating classes that hide their implementation details while still allowing access to the required functionality through the interface, access modifiers

## Understanding general software development (15-20%)

### Understand application life cycle management

- phases of application life cycle management, software testing

### Interpret application specifications

- reading application specifications and translating them into prototypes, code, select appropriate application type, and components

### Understand algorithms and data structures

- arrays, stacks, queues, linked lists, and sorting algorithms; performance implications of various data structures; choosing the right data structure

## Understanding web applications (15-20%)

### Understand web page development

- HTML, Cascading Style Sheets (CSS), JavaScript

### Understand Microsoft ASP.NET web application development

L. P. Sh

- page life cycle, event model, state management, client-side versus server-side programming

### Understand web hosting

- creating virtual directories and websites, deploying web applications, understanding the role of Internet Information Services

### Understand web services

- web services that will be consumed by client applications, accessing web services from a client application, SOAP and Web Service Definition Language (WSDL)

## Understanding desktop applications (15-20%)

### Understand Windows apps

- UI design guideline categories, characteristics and capabilities of Store Apps, identify gestures

### Understand console-based applications

- characteristics and capabilities of console-based applications

### Understand Windows Services

- characteristics and capabilities of Windows Services

## Understanding databases (15-20%)

### Understand relational database management systems

- characteristics and capabilities of database products, database design, Entity Relationship Diagrams (ERDs), normalization concepts

### Understand database query methods

- Structured query language (SQL), creating and accessing stored procedures, updating data and selecting data

### Understand database connection methods

- connecting to various types of data stores, such as flat file; XML file; in-memory object; resource optimization

# Course Outline

## AWS Academy Cloud Foundations (ACF)

### Course Version

This course outline applies to version 2.0 of *AWS Academy Cloud Formations* in English. Details of changes from version 1.0 are available in the Instructor Guide.

### Description

*AWS Academy Cloud Foundations* is intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support.

### Course Objectives

Upon completion of this course, students will be able to:

- Define the AWS Cloud
- Explain the AWS pricing philosophy
- Identify the global infrastructure components of AWS
- Describe the security and compliance measures of the AWS Cloud, including AWS Identity andAccess Management (IAM)
- Create a virtual private cloud (VPC) by using Amazon Virtual Private Cloud (Amazon VPC)
- Demonstrate when to use Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, andAWS Elastic Beanstalk
- Differentiate between Amazon Simple Storage Service (Amazon S3), Amazon Elastic Block Store (Amazon EBS), Amazon Elastic File System (Amazon EFS), and Amazon Simple Storage ServiceGlacier (Amazon S3 Glacier)
- Demonstrate when to use AWS database services, including Amazon Relational Database Service (Amazon RDS), Amazon DynamoDB, Amazon Redshift, and Amazon Aurora
- Explain the architectural principles of the AWS Cloud
- Explore key concepts related to Elastic Load Balancing, Amazon CloudWatch, and Amazon EC2Auto Scaling

### Duration

Approximately 20 hours, when delivered synchronously by an educator. Detailed timings are provided below. Actual delivery times will vary from class to class and depending on the delivery format. AWS Academy Cloud Foundations must be delivered over a period of at least two weeks.

### Intended Audience

This introductory (level 100) course is intended for AWS Academy member institutions.

### Student Prerequisites

This is an entry-level course, but students should possess:

- General IT technical knowledge
- General IT business knowledge



aws academy

Head of the Department
Information Technology Engineering
Marwadi University

# Course Outline

## AWS Academy Cloud Foundations (ACF)

### Delivery Methods

This course can be delivered in person with synchronous lectures or with digital training models that students can complete independently.

### Educator Prerequisites

There are no prerequisites to facilitate this course. However, prior to facilitating this course, educators are recommended to complete the AWS Academy Cloud Foundations course, pass the AWS Certified Cloud Practitioner exam, and participate in an AWS "Ready-to-Teach" Webinar Series.

### Learning Resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions



aws academy

# Course Outline

## AWS Academy Cloud Foundations (ACF)

### Course Contents

Digital training materials cover the same content as the lectures. It is not necessary to use both.

| | | Lecture | Activity | Total |
|---|---|---|---|---|
| **Course Introduction** | | **35 min.** | | **35 min.** |
| Lecture or Video | Introduction | | | |
| **Module 1: Cloud Concepts Overview** | | **45 mins** | **15 mins** | **60 min.** |
| Lecture or Video | Introduction to Cloud Computing | | | |
| Lecture or Video | Advantages of the Cloud | | | |
| Lecture or Video | Introduction to AWS | | | |
| Lecture or Video | Moving to the AWS Cloud | | | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 mins | |
| Knowledge Check | Cloud Concepts | | 10 mins | |
| **Module 2: Cloud Economics and Billing** | | **45 min.** | **55 min.** | **100 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | Fundamentals of Pricing | | | |
| Lecture or Video | Total Cost of Ownership | | | |
| Activity | Simple Monthly Calculator | | 20 min. | |
| Lecture or Video | Delaware North Case Study | | | |
| Lecture or Video | AWS Organizations | | | |
| Lecture or Video | AWS Billing and Cost Management | | | |
| Educator Demo | Billing Dashboard | | 10 min. | |
| Lecture or Video | Technical Support Models | | | |
| Activity | Support Plan Scavenger Hunt | | 10 min. | |
| Lecture or Video | Wrap-Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Cloud Billing Economics | | 10 min. | |
| **Module 3: AWS Global Infrastructure Overview** | | **25 min.** | **45 min.** | **70 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | AWS Global Infrastructure | | | |
| Educator Demo | AWS Global Infrastructure | | 10 min. | |
| Lecture or Video | AWS Services and Service Categories | | | |
| Activity | AWS Management Console Clickthrough | | 20 min. | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | AWS Infrastructure | | 10 min. | |
| **Module 4: Cloud Security** | | **45 min.** | **70 min.** | **115 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | AWS Shared Responsibility Model | | | |
| Activity | AWS Shared Responsibility Model | | 10 min. | |
| Lecture or Video | AWS IAM | | | |
| Video Demo | AWS IAM Console Demonstration | | 5 min. | |
| Lecture or Video | Securing a New AWS Account | | | |
| Lab Exercise | Introduction to AWS IAM | | 40 min. | |
| Lecture or Video | Securing Accounts | | | |
| Lecture or Video | Securing Data | | | |
| Lecture or Video | Working to Ensure Compliance | | | |



aws academy

| | | | | |
|---|---|---|---|---|
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Cloud Security | | 10 min. | |
| **Module 5: Networking and Content Delivery** | | **60 min.** | **70 min.** | **130 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | Networking Basics | | | |
| Lecture or Video | Amazon VPC | | | |
| Lecture or Video | VPC Networking | | | |
| Activity | Label This Diagram | | 5 min. | |
| Video Demo | Amazon VPC Console Demonstration | | 5 min. | |
| Lecture or Video | VPC Security | | | |
| Activity | Design a VPC | | 15 min. | |
| Lab Exercise | Build a VPC and Launch a Web Server | | 30 min. | |
| Lecture or Video | Route 53 | | | |
| Lecture or Video | CloudFront | | | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | VPC | | 10 min. | |
| **Module 6: Compute** | | **80 min.** | **145 min.** | **225 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | Compute Services Overview | | | |
| Lecture or Video | Amazon EC2 Part 1 | | | |
| Lecture or Video | Amazon EC2 Part 2 | | | |
| Lecture or Video | Amazon EC2 Part 3 | | | |
| Video Demo | Amazon EC2 | | 5 min. | |
| Lab Exercise | Introduction to Amazon EC2 | | 35 min. | |
| Activity | Amazon EC2 versus Managed Services | | 30 min. | |
| Video Demo | Amazon EC2 Part Console Demonstration | | | |
| Lecture or Video | Amazon EC2 Cost Optimization | | | |
| Lecture or Video | Container Services | | | |
| Lecture or Video | Introduction to AWS Lambda | | | |
| Activity | AWS Lambda | | 30 min. | |
| Lecture or Video | Introduction to AWS Elastic Beanstalk | | | |
| Activity | AWS Elastic Beanstalk | | 30 min. | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Amazon Virtual Private Cloud | | 10 min. | |
| **Module 7: Storage** | | **45 min.** | **85 min.** | **130 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | AWS EBS | | | |
| Video Demo | Amazon Elastic Block Store Console Demonstration | | 5 min. | |
| Lab Exercise | Working with EBS | | 30 min. | |
| Lecture or Video | AWS S3 | | | |
| Video Demo | AWS S3 Console Demonstration | | 5 min. | |
| Lecture or Video | AWS EFS | | | |
| Video Demo | AWS EFS Console Demonstration | | 5 min. | |
| Lecture or Video | AWS S3 Glacier | | | |
| Video Demo | AWS S3 Glacier Console Demonstration | | 5 min. | |
| Activity | Storage Technology Selection | | 20 min. | |

| | | | | |
|---|---|---|---|---|
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Storage | | 10 min. | |
| **Module 8: Databases** | | **60 min.** | **70 min.** | **130 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | Amazon RDS | | | |
| Video Demo | Amazon RDS Console Demonstration | | 5 min. | |
| Lab Exercise | Build a Database Server | | 30 min. | |
| Lecture or Video | Amazon DynamoDB | | | |
| Video Demo | Amazon DynamoDB Demostration | | 5 min. | |
| Lecture or Video | Amazon Redshift | | | |
| Lecture or Video | Amazon Aurora | | | |
| Activity | Database Case Study | | 15 min. | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Databases | | 10 min. | |
| **Module 9 – Cloud Architecture** | | **40 min.** | **75 min.** | **115 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | AWS Well-Architected Framework Design Principles | | | |
| Activity | AWS Well-Architected Framework Design Principles | | 50 min. | |
| Lecture or Video | Operational Excellence | | | |
| Lecture or Video | Security | | | |
| Lecture or Video | Reliability | | | |
| Lecture or Video | Performance Efficiency | | | |
| Lecture or Video | Cost Optimization | | | |
| Lecture or Video | Reliability & High Availability | | | |
| Lecture or Video | AWS Trusted Advisor | | | |
| Activity | Interpret AWS Trusted Advisor Recommendations | | 10 min. | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Cloud Architecture | | 10 min. | |
| **Module 10 – Automatic Scaling and Monitoring** | | **35 min.** | **55 min.** | **90 min.** |
| Lecture or Video | Introduction | | | |
| Lecture or Video | Elastic Load Balancing | | | |
| Activity | Elastic Load Balancing | | 5 min. | |
| Lecture or Video | Amazon CloudWatch | | | |
| Activity | Amazon CloudWatch | | 5 min. | |
| Lecture or Video | Amazon EC2 Auto Scaling | | | |
| Lab Exercise | Scale & Load Balance your Architecture | | 30 min. | |
| Lecture or Video | Wrap Up | | | |
| Activity | Sample Exam Question | | 5 min. | |
| Knowledge Check | Autoscale | | 10 min. | |
| **Optional** | | | | |
| Lab | Sandbox | | | |

# Course Outline

## AWS Academy Cloud Foundations (ACF)

### Module Objectives

**Module 0: Course Introduction**
The purpose of this module is to introduce the AWS Academy Cloud Foundations course to students.

At the end of this module, students should be able to:

- Recognize the purpose of Academy Cloud
- FoundationsRecognize the course structure
- Recognize the AWS certification process
- Navigate the AWS Documentation website

**Module 1: Cloud Concepts Overview**
The purpose of this module is to introduce students to cloud computing, Amazon Web Services (AWS), and what AWS offers.

At the end of this module, students should be able to:

- Define different types of cloud computing models
- Describe six advantages of cloud computing
- Recognize the main AWS service categories and core services
- Review the AWS Cloud Adoption Framework (AWS CAF)

**Module 2 - Cloud Economics and Billing**
The purpose of this module is to introduce students to the business advantages for moving to the cloud. The module begins by explaining the pricing philosophy of AWS and the overall concept of Total Cost of Ownership. These concepts are important for your students to understand because they might need to rely on them in their careers as cloud practitioners.

After providing this conceptual foundation, the module describes the following tools that are available for understanding and explaining the costs for running AWS services:

- AWS TCO Calculator
- AWS Simple Monthly Calculator
- AWS Organizations
- AWS Billing Dashboard

At the end of this module, students should be able to:

- Explain the AWS pricing philosophy
- Recognize fundamental pricing characteristics
- Indicate the elements of the Total Cost of Ownership
- Discuss the results of the Simple Monthly Calculator
- Identify how to set up an organizational structure that simplifies billing and account visibility
- Identify the functionality in the AWS Billing Dashboard



aws academy

Head of the Department
Information Technology Engineering
Marwadi University

- Describe how to use AWS Billing, AWS Cost Explorer, AWS Budgets, and AWS Cost and Usage Reports
- Identify the various AWS technical support plans and their costs

**Module 3: AWS Global Infrastructure Overview**
The purpose of this module is to introduce the Amazon Web Services (AWS) Global Infrastructure.

At the end of this module, students should be able to:

- Identify the difference between AWS Regions, Availability Zones, and edge locations
- IdentifyAWS services and service categories

**Module 4: AWS Cloud Security**
The purpose of this module is to provide an introduction to the AWS approach to security. This module includes the controls in the AWS environment, and some of the AWS products and features thatcustomers can use to meet their security objectives.

At the end of this module, students should be able to:

- Recognize the shared responsibility model
- Identify the responsibility of the customer and AWS
- Recognize IAM users, groups, and roles
- Describe different types of security credentials in IAM
- Identify the steps to securing a new AWS account
- Explore IAM users and groups
- Recognize how to secure AWS data
- Recognize AWS compliance programs

**Module 5: Networking and Content Delivery**
The purpose of this module is to introduce students to three fundamental AWS networking and contentdelivery services: Amazon Virtual Private Cloud (Amazon VPC), Amazon Route 53, and AmazonCloudFront. Students will have the opportunity to label a virtual private cloud (VPC) networkarchitecture diagram, design a VPC, watch how a VPC is built, and finally build a VPC themselves.

At the end of this module, students should be able to:

- Recognize the basics of networking
- Describe virtual networking in the cloud with Amazon VPC
- Label a network diagram
- Design a basic VPC architecture
- Indicate the steps to build a VPC
- Identify security groups
- Create their own VPC and add additional components to it to produce a customized network
- Identify the fundamentals of Amazon Route 53
- Recognize the benefits of Amazon CloudFront

# Course Outline

## AWS Academy Cloud Foundations (ACF)

**Module 6: Compute**

The purpose of this module is to introduce many of the compute services that Amazon Web Services (AWS) offers. These services include Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, AWSElastic Beanstalk, Amazon Elastic Container Service (Amazon ECS), Amazon Elastic Container Registry (ECR), and Amazon Elastic Kubernetes Service (Amazon EKS).

At the end of this module, students should be able to:

- Provide an overview of different AWS compute services in the cloud
- Demonstrate why to use Amazon Elastic Compute Cloud (Amazon EC2)
- Identify the functionality in the Amazon EC2 console
- Perform basic functions in Amazon EC2 to build a virtual computing environment
- Identify Amazon EC2 cost-optimizationelements
- Demonstrate when to use AWS Elastic Beanstalk
- Demonstrate when to use AWS Lambda
- Identify how to run containerized applications in a cluster of managed servers

**Module 7: Storage**

The purpose of this module is to introduce students to the various options for storing data with AWS. The module describes four different storage technologies. The module focuses on the storage servicesthat are described so that students can decide which storage service to use for various use cases. Storage is one of the core AWS service areas, and it is important for your students to understand theadvantages and disadvantages of each technology. The module concludes with an activity that givesstudents an opportunity to apply what they learned to a real-world scenario. After providing this conceptual foundation, the module describes the following storage services:

- Amazon Elastic Block Store (Amazon EBS)
- Amazon Simple Storage Service (Amazon S3)
- Amazon Elastic File System (Amazon EFS)
- Amazon Simple Storage Service Glacier

At the end of this module, students should be able to:

- Identify the different types of storage
- Explain Amazon Simple Storage Service (Amazon S3)
- Identify the functionality in Amazon S3
- Explain Amazon Elastic Block Store (Amazon EBS)
- Identify the functionality in Amazon EBS
- Perform functions in Amazon EBS to build an EC2 storage solution
- Explain Amazon Elastic File System (Amazon EFS)
- Identify the functionality in Amazon EFS
- Explain Amazon Simple Storage Service Glacier
- Identify the functionality in Amazon S3 Glacier
- Differentiate between Amazon EBS, Amazon S3, Amazon EFS, and Amazon S3 Glacier

**Module 8: Databases**



aws academy

# Course Outline

## AWS Academy Cloud Foundations (ACF)

The purpose of this module is to introduce students to four of the most commonly used AWS databaseservices. The module describes four different database services. The module focuses on the databaseservices that are described so that students can decide which database service to use for various usecases. Databases are one of the core AWS service areas, and it is important for your students to understandthe advantages and disadvantages of each service. The module concludes with an activity that givesstudents an opportunity to apply what they learned to a real-world scenario.After providing this conceptual foundation, the module describes the following database services:

- Amazon Relational Database Service (Amazon RDS)
- Amazon DynamoDB
- Amazon Redshift
- Amazon Aurora

At the end of this module, students should be able to:

- Explain Amazon Relational Database Service (Amazon RDS)
- Identify the functionality in Amazon RDS
- Explain Amazon DynamoDB
- Identify the functionality in Amazon DynamoDB
- Explain Amazon Redshift
- Explain Amazon Aurora
- Perform tasks in an Amazon RDS database such as launching, configuring, and interacting

**Module 9: Cloud Architecture**

The purpose of this module is to introduce students to designing and building cloud architecturesaccording to best practices.

- At the end of this module, students should be able to:
- Describe the AWS Well-Architected Framework, including the five pillars
- Identify the design principles of the AWS Well-Architected Framework
- Explain the importance of reliability and high availability
- Identify how AWS Trusted Advisor helps customers
- Interpret AWS Trusted Advisor recommendations

# Course Outline

## AWS Academy Cloud Foundations (ACF)

**Module 10: Automatic Scaling and Monitoring**

The purpose of this module is to introduce students to three fundamental AWS services –Elastic LoadBalancing, Amazon Elastic Compute Cloud (Amazon EC2) Auto Scaling, and Amazon CloudWatch – whichcan be used together to build dynamic, scalable architectures.

At the end of this module, students should be able to:

- Indicate how to distribute traffic across Amazon EC2 instances by using Elastic Load Balancing
- Identify how Amazon CloudWatch enables you to monitor AWS resources and applications inreal time
- Explain how Amazon EC2 Auto Scaling launches and releases servers in response to workload changes
- Perform scaling and load balancing tasks to improve an architecture

Head of the Department
Information Technology Engineering
Marwadi University



aws academy

Head of the Department
Information Technology Engineering
Marwadi University

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Advanced Corporate Communication

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

| | |
|---|---|
| **Course Title:** | **Advanced Corporate Communication** |
| **Program Name:** | **Master of Business Administration** |
| **Total Hours:** | **30 hours** |
| **Program code:** | |

**Course Details**

Advanced Corporate Communication develops skills and techniques that enhance writing abilities. It supports students to learn corporate writing and also professional writing.

**Course Objectives**

- To Understand how communication works, what interferes with it, and how to overcome it
- To Learn behaviors instrumental to having better conversations
- To assess communication style to better diagnose and adapt to others' styles
- To choose the best channel for group communication

**Course Content:**

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Writing Skills: Letters, Emails, Analytical Reports | 10 |
| 2 | Interactions: Accepting and declining invitations, making requests, sharing feedback, Giving suggestions, Asking and answering questions, Telephonic interaction | 10 |
| 3 | Presentations: Preparing effective slides, using images, graphs, charts, etc., Making use of facts and figures, Delivering an effective presentation, Pronunciation, and Body language. | 10 |

**Course Outcomes:**

- To be able to reach a higher level of competence in communication
- To analyze real-time feedback on their spoken communication aligned with global business standards
- To be able to recognize language and vocal anomalies in their present communication styles

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Advanced Excel Certification Course

## Faculty of Management Studies
## Marwadi University Rajkot

# 1.3.2 – Syllabus of Certification Course

| | |
|---|---|
| Course Title: | Advanced Excel Certification Course |
| Program Name: | Master of Business Administration |
| Total Hours: | 32 hours |
| Program code: | |

## Course Details

Advanced Excel Course **educates students on the functions, types of financial analysis, and the advanced formulas required to function as an Excel power user**. This course program builds skill enhancement, specifically for spreadsheet users, to strengthen their fundamentals in Excel to an advanced level.

## Course Objectives

- To give students a brief overview of various MS Excel functions which are helpful for analytical purposes.
- To give knowledge of domain-specific applications of MS Excel for analysis of data.
- To enable the students to interpret the results after applying analysis tools of MS excel.

## Course Content:

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Data Re-organization & Visualization, Introduction to the course- Charts and Basic Arithmetic Calculations-Conditional formatting- sorting, Filtering- Lookup Functions-Hyper linking | 12 |
| 2 | Data Management: Pivot Tables & Pivot charts- Macros- Data Tables- Scenario Manager- Data table -Goal seek function | 10 |
| 3 | Basic Finance Function: FV-PV-Rate-NPER-Annuity-Loan Amortization Schedule | 10 |

## Course Outcomes:

- Students will be able to understand data management and analysis tools of MS Excel
- Students shall be able to apply analysis tools of MS Excel on domain-specific databases.

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Six Sigma

## Faculty of Management Studies
## Marwadi University Rajkot

# 1.3.2 – Syllabus of Certification Course

| | |
|---|---|
| **Course Title:** | **Six Sigma** |
| **Program Name:** | **Master of Business Administration** |
| **Total Hours:** | **30 hours** |
| **Program code:** | |

**Course Details**

The course supports students to get a general knowledge of the theory, composition, and implementation of a Six Sigma initiative. Students will become proficient in all of the analytical tools necessary to define, measure, analyze, improve, and control Six Sigma improvement projects, including the design and analysis of general and fractional factorial experiments.

**Course Objectives**

- To be able to develop a comprehensive set of skills that will allow you to function effectively as a Six Sigma

**Course Content:**

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Introduction to Six sigma, Yellow Belt & Green Belt | 2 |
| 2 | Kotebetsu Kaizen (Continuous Improvement), | 3 |
| 3 | SGA (Small Group activities) - like Suggestion schemes / Idea factory, 5S | 4 |
| 4 | TPM - 8 Pillars - Autonomous Maintenance | 4 |
| 5 | KANO model concept for Service sector | 4 |
| 6 | TOC - Theory of Constraints (Process Optimization and Sub- Optimization) | 3 |
| 7 | OEE (Overall Equipment Effectiveness) & TEEP ( Total effective equipment Performance) for Manufacturing Sector | 5 |
| 8 | **Plant Maintenance, Quality Management, Office TPM, SHE, DM, and E&T for Manufacturing Sector | 5 |

**Course Outcomes:**

- Recognize the organizational factors that are necessary groundwork for a successful Six Sigma effort.
- Use the concept of a sigma level to evaluate the capability of a process or organization.
- Employ a wide range of process improvement techniques, including the design of experiments, within the different models.

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Digital Marketing

## Faculty of Management Studies
## Marwadi University Rajkot

# 1.3.2 – Syllabus of Certification Course

| | |
|---|---|
| **Course Title:** | **Digital Marketing** |
| **Program Name:** | **Master of Business Administration** |
| **Total Hours:** | **36 hours** |
| **Program code:** | |

**Course Details**

Digital marketing is an extensive topic; digital marketing in itself is divided into broad categories i.e. social media marketing, google analytics, SEO, content research, web analytics, email marketing, etc. Search engine optimization (SEO), website creation, content strategy and google analytics are the primary digital marketing topics taught in every digital marketing course; either online or in training programs

**Course Objectives**

To be able to develop an overall understanding of digital marketing / online marketing platforms, mainly web analytics, social media tools,

**Course Content:**

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Introduction to Digital Marketing, Content Marketing: Concepts and Strategies, planning, creating, distributing & promoting content. | 8 |
| 2 | Introduction; Major Social Media Platforms for Marketing; Developing Data-driven Audience & Campaign Insights; social media for Business; Creation & Optimization of Social Media Campaigns, etc. | 8 |
| 3 | Google Analytics Tools; Web Analytics Tools, etc. | 8 |
| 4 | Web design, optimization of websites; Publishing a basic website; User-centered Design and Website Optimization | 6 |
| 5 | Digital Marketing Budget | 6 |

**Course Outcomes:**

Students should demonstrate their understanding of the various new media such as; social media, mobile technology, web analytics, search engine optimization, and viral advertising.

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Programming & Coding

## Faculty of Management Studies
## Marwadi University Rajkot

# 1.3.2 – Syllabus of Certification Course

| | |
|---|---|
| **Course Title:** | **Programming & Coding** |
| **Program Name:** | **Master of Business Administration** |
| **Total Hours:** | **30 hours** |
| **Program code:** | |

## Course Details

A programming language offers a set of different types of statements for programmers to use. The course will support students to learn the basics of computers along with different Algorithms for logical development. Students will have knowledge of Python programming.

## Course Objectives

- To understand the logic development process and implementation using a programming language.

## Course Content:

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Introduction of programming: Concept of Algorithm for logic development, Graphically representation of problem solving using flowchart, | 10 |
| 2 | Introduction of Python Programming Language, Features & Application of Python Programme, Introduction about Python Library, Basic Programming concept with Python with the practical demo. | 20 |

## Course Outcomes:

- To understand computer basics and algorithms.
- To understand Python Programming and applications.

Faculty of Management Studies * Marwadi University, Rajkot * Dean

Marwadi University

# MARWADI UNIVERSITY
# FACULTY OF COMPUTER APPLICATIONS
# BACHELOR OF COMPUTER APPLICATIONS

## Syllabus of the Value-added Courses
## (2017-22)

MARWADI UNIVERSITY * RAJKOT * FACULTY OF COMPUTER APPLICATIONS

Course Name: AWS Certified Solutions Architect

Duration: 40 Hours

Labs: available online only computers with Internet is required

Course Outline

| Domain | % of Examination |
|---|---|
| 1.0 Designing highly available, cost-efficient, fault-tolerant, scalable systems | 60% |
| 2.0 Implementation/Deployment | 10% |
| 3.0 Data Security | 20% |
| 4.0 Troubleshooting | 10% |
| **TOTAL** | **100%** |

## 1 Domain 1.0: Designing highly available, cost-efficient, fault-tolerant, scalable systems

1.1 Identify and recognize cloud architecture considerations, such as fundamental components and effective designs.

Content include the following:

- How to design cloud services
- Planning and design
- Monitoring and logging
- Familiarity with:
  - Best practices for AWS architecture
  - Developing to client specifications, including pricing/cost (e.g., on Demand vs. Reserved vs. Spot; RTO and RPO DR Design)
  - Architectural trade-off decisions (e.g., high availability vs. cost, Amazon Relational Database
  - Service (RDS) vs. installing your own database on Amazon Elastic Compute Cloud (EC2))
  - Hybrid IT architectures (e.g., Direct Connect, Storage Gateway, VPC, Directory Services)
  - Elasticity and scalability (e.g., Auto Scaling, SQS, ELB, CloudFront)

**2 Domain 2.0: Implementation/Deployment**

2.1 Identify the appropriate techniques and methods using Amazon EC2, Amazon S3, AWS Elastic Beanstalk, AWS CloudFormation, AWS OpsWorks, Amazon Virtual Private Cloud (VPC), and AWS. Identity and Access Management (IAM) to code and implement a cloud solution.

Content include the following:

- Configure an Amazon Machine Image (AMI)
- Operate and extend service management in a hybrid IT architecture
- Configure services to support compliance requirements in the cloud
- Launch instances across the AWS global infrastructure
- Configure IAM policies and best practices

**3 Domain 3.0: Data Security**

3.1 Recognize and implement secure practices for optimum cloud deployment and maintenance.

Content include the following:

- AWS shared responsibility model
- AWS platform compliance
- AWS security attributes (customer workloads down to physical layer)
- AWS administration and security services
- AWS Identity and Access Management (IAM)
- Amazon Virtual Private Cloud (VPC)
- AWS CloudTrail
- Ingress vs. egress filtering, and which AWS services and features fit
- "Core" Amazon EC2 and S3 security feature sets
- Incorporating common conventional security products (Firewall, VPN)
- Design patterns
- DoS mitigation
- Encryption solutions (e.g., key services)
- Complex access controls (building sophisticated security groups, ACLs, etc.)
- Amazon CloudWatch for the security architect
- Trusted Advisor

**3.2 Recognize critical disaster recovery techniques and their implementation.**

Content may include the following:

- Disaster recovery
  - Recovery time objective
  - Recovery point objective
  - Amazon Elastic Block Store
- AWS Import/Export
- AWS Storage Gateway
- Amazon Route53
- Validation of data recovery method

**4 Domain 4.0: Troubleshooting**

Content include the following:

- General troubleshooting information and questions

Marwadi UNIVERSITY

**Finishing School**
**Faculty of Computer Applications**
**Marwadi University**

**Sponsored by:**
DST
Department of Science & Technology
Government of Gujarat

| | |
|---|---|
| **Course Id** | |
| **Course Title** | **Creating Games With Unity Engine** |
| **Objectives of the Course** | • Entering the World Of Game Development<br>• Learn Unity Engine<br>• Porting Games to Various Platforms |
| **Prerequisites** | Knowledge of Vector Mathematics and Basic OOP |
| **Who can join** | 1) Students of BCA, B.Sc. IT, PGDCA, MCA, M.Sc. IT, BE (CE/IT), ME, M.Tech.<br>2) Computer Professionals and Developers |
| **Duration** | 60 Hours |

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

Marwadi UNIVERSITY

**Finishing School**
**Faculty of Computer Applications**
**Marwadi University**

**Sponsored by:**
DST
Department of Science & Technology
Government of Gujarat

## Course Content

| SR no | Modules | Topics | Hours |
|---|---|---|---|
| 1 | Getting Started with Unity | 1) Vector Mathematics<br>2) Getting Familiar with Unity Environment<br>3) Creating Project<br>4) Understanding Scene View, Inspector , Game View, Console , Project View<br>5) GameObjects and its Transformations<br>6) Camera and Rendering | 2 |
| 2 | Basics Of Scripting | 1) C# vs JAVA<br>2) Unity Life Cycle<br>3) 3D and 2D Objects<br>4) Core Unity Engine Classes With Example<br>5) Vector3<br>6) Transform<br>7) Mathf<br>8) Time<br>9) MonoBehaviour<br>10) Understanding Co Routines | 6 |
| 3 | Basics Of Physics And Importance Of Time | 1) Basics of Physics In Unity<br>2) Importance of Time<br>3) Playing around with Time and Project settings<br>4) Tags and Layers<br>5) Script Execution Orders<br>6) Unity as Component Based Code Structure | 8 |
| 4 | Developing a Game From Scratch | 1) Developing Core Mechanics<br>2) Proper Coding Structure | 8 |

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

| | | | |
|---|---|---|---|
| 5 | Unity UI | 1) How UI works?<br>2) Understanding Core elements<br>3) Canvas<br>4) Image<br>5) ScrollBar<br>6) Text<br>7) Handling UI with Proper Code Flow<br>8) Optimizing UI<br>9) Handling Animations in UI | 8 |
| 6 | Finishing And SFX | 7) Basics Of Animators<br>8) Basics Of Sounds<br>9) Basics Particle System | 8 |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

# iOS Module – 1 Beginner

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1 | Introduction to iOS Platform | 1. What is iOS Platform?<br>2. iOS Application Fundamentals<br>3. Running an iOS Application<br>4. Developer Technology Overview<br>• The Apple Developer Tools, SWIFT, Cocoa Touch, MVC | 2 |
| 2 | Introduction to X Code and iOS Simulator | 1. X Code Overview<br>2. Apple Platforms<br>3. Application Template window<br>4. Create and Manage Project using X Code<br>5. Using iOS Simulator | 2 |
| 3 | Introduction to iOS app development languages | 1. What is Objective-C?<br>2. What is SWIFT?<br>3. Differences : Objective-C Vs. SWIFT<br>4. Objective-C Programming Structure<br>5. Command line Application using Objective-C<br>6. SWIFT Programming Structure | 3 |
| 4 | Introducing SWIFT Playground | 1. What is Playground?<br>2. Working with Playground using SWIFT<br>3. SWIFT Programming on Playground<br>• Data types<br>• let and var declaration<br>• String (Mutable / Immutable)<br>• Array (Mutable / Immutable)<br>• Dictionary (Mutable / Immutable) | 4 |
| 5 | Working with Core SWIFT | 1. Introducing Command line application<br>2. SWIFT Programming on Command line tool<br>• let and var declaration<br>• String (Mutable / Immutable)<br>• Array (Mutable / Immutable)<br>• Dictionary (Mutable / Immutable<br>3. Object oriented programming with SWIFT<br>4. Protocol oriented programming with SWIFT<br>5. Exploring SWIFT file structure<br>6. Memory management and ARC | 8 |

| | | | |
|---|---|---|---|
| 6 | iOS Application Architecture | 1. What is Cocoa?<br>2. What is Cocoa Touch?<br>3. Exploring iOS Application Architecture<br>4. MVC design pattern<br>5. iOS application life cycle<br>6. Exploring other iOS Frameworks with X Code | **4** |
| 7 | iOS Application File Structure | 1. Using MVC pattern<br>• Appdelegate File<br>▪ Application state functions<br>• View Controller<br>• Storyboard<br>• Info.plist | **3** |
| 8 | Application development using Common Controls | 1. IBOutlet<br>2. IBAction<br>3. Using Text field, Text View, Button<br>4. UISegment Control, Stepper, Switch, Slider, Progress bar, Image view<br>5. UIAlertview<br>6. UIActionsheet | **8** |
| 9 | Implementing Multiple Screen Navigation | 1. Introducing multiscreen Storyboards<br>2. UINavigation Control<br>3. Navigation using Segue<br>4. Navigation using Storyboard ID<br>• PUSH<br>• POP<br>• Present<br>• Dismiss | **6** |

**Total Duration: 40 Hours**

# iOS Module – 2 Intermediate

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1. | Implementing Bar applications and Pickers | 1. Toolbar application<br>2. Tabbed application<br>3. UIPickerview<br>4. UIDatePicker<br>5. UIImagePicker for accessing iPhone gallery<br>6. Custom selection using Pickers | 8 |
| 2. | Application Development Using Advance Controls | 1. Tableview Application<br>2. Custom Cell implementation<br>3. Collectionview Application<br>4. Webview Application<br>5. Scroll Bar Application | 12 |
| 3. | Using Advance Touches and User Motion | 1. iOS Gestures<br>• Tap Gesture<br>• Long Press Gesture<br>• Pan Gesture<br>• Swipe Gesture<br>• Rotate Gesture<br>• Pinch Gesture | 5 |
| 4. | iOS Application Using Database Storage | 1. iOS application Data Storage<br>2. Data storage approaches<br>3. What is SQLite?<br>4. SQLite library<br>5. Working with SQLite Database<br>6. Read and Write data using SQLite<br>7. Introducing basic Core data application | 12 |
| 5. | Building Responsive User Interface | 1. Responsive interfaces<br>2. Using Auto Layout / Size Class<br>3. Using Constraint | 3 |

**Total Duration: 40Hours**

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

Marwadi University | FINISHING SCHOOL | DST Department of Science & Technology Government of Gujarat

# Course Highlights

| | |
|---|---|
| **Course Id** | |
| **Course Title** | Social Media Marketing & Advertising |
| **Objectives of the Course** | To Provide Practical Knowledge & fill the industry gap of skillful digital marketer |
| **Prerequisites** | Basic Knowledge of Social Media<br>Creative Thinker<br>Analytical View |
| **Who can join** | Any Graduates |
| **Duration** | 40 – 50 Hours |

# Course Content

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1 | Introduction | Social Media Platform Features & its proper usages (Facebook, Instagram, Twitter & LinkedIn) | 5 |
| 2 | Algorithms | Understanding Platform Algorithms & how to use them to reach better audience | 4 |
| 3 | Research | • How to do Competitive Analysis<br>• Content Research<br>• Hashtag Research | 1<br>2<br>2 |
| 4 | Strategic Planning | • How to create content Calendar?<br>• Marketing Strategy Practices | 1<br>2 |
| 5 | Content Creation | • How to Create Content?<br>• Tool Demo for Image & Video Creation | 2<br>2 |
| 6 | Copy Writing | How to write supporting copy-caption? | 3 |
| 7 | Distribution & Engagement Activity | • What is Content Distribution?<br>• Organic Practices to get better engagement | 1<br>5 |
| 8 | Analysis & Reporting | • Introduction to Analytics Dashboards<br>• How to use the data for the betterment<br>• How to generate Performance Report? | 5 |
| 9 | Paid Advertising | • Introduction to Paid Marketing<br>• Dashboard Features & Usages<br>• Campaign Creation & Its Optimization | 10 |
| 10 | Social Media for Personal Use | • How to use Social Media Platforms to establish yourself as marketer<br>• Effective use of social media to get job/internship/training in company | 2 |
| 11 | Helpful Tools | • How to Do FB/YouTube Live<br>• Other tools to enhance the productivity | 3 |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

Marwadi UNIVERSITY

# Marwadi Institute of IT Excellence

**(Rs. 50 Lac funded by Dept. of Science & Technology)**

Department of Science & Technology
Government of Gujarat

| | |
|---|---|
| **Course Id** | |
| **Course Title** | **Tally** |
| **Objectives of the Course** | • Understanding basics of bookkeeping<br>• Understanding features of Tally ERP 9<br>• Working through Tally ERP 9 |
| **Prerequisites** | Basics of computer programming |
| **Who can join** | 1) Students of BBA, B. Com., MBA, M. Com., PGDM |
| **Duration** | 30 HRS |

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

Marwadi UNIVERSITY

# Marwadi Institute of IT Excellence

**(Rs. 50 Lac funded by Dept. of Science & Technology)**

Department of Science & Technology
Government of Gujarat

## Course Content

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1 | Basics of Accounting | Types of Accounts, Golden Rules of Accounting, Accounting Principles, Concepts and Conventions, Double Entry System of Book Keeping, Mode of Accounting, Financial Statements, Transactions, Recording Transactions | 6 |
| 2 | Fundamentals of Tally.ERP 9 | Getting Functional with Tally.ERP 9<br>Creation / Setting up of Company in Tally.ERP 9 | 2 |
| 3 | Accounting Masters in Tally.ERP 9 | F11:Features<br>F12 : Configurations<br>Setting up Account Heads | 8 |
| 4 | Inventory in Tally.ERP 9 | Stock Groups<br>Stock Categories<br>Godowns / Locations<br>Units of Measure<br>Stock Items<br>Creating Inventory Masters for National Traders | 6 |
| 5 | Voucher Entry in Tally.ERP 9 | Accounting Vouchers<br>Inventory Vouchers<br>Invoicing | 8 |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

Way To Web®
Pvt Ltd.
ISO 9001 2015 CERTIFIED COMPANY

# WORDPRESS AND JOOMLA - 35 HOURS

Wordpress ---- 18 HOURS

- Introduction to Web Designing.
- CMS, Web System & Planning.
- Understanding different Web Technologies.
- Understanding Web Layout.
- Basic about HTML Programming.
- Understanding Wordpress CMS.
- Basic about Database (MySQL).
- Installing & Configuring Wordpress.
- Choosing & Editing Template.
- Working with Menus.
- Extending Wordpress: Modules & Plugins.
- Creating Web Pages in Wordpress.
- Launching Wordpress Site.
- Hosting Administration with CPanel.
- Creating Back Ups.
- Introduction about SEO (Search Engine Optimization).
- SEO in Wordpress.
- Wordpress Advance Parameters.
- Introduction to Web Security.
- Social Media Optimization (SMO)
- SEO on HTML Websites.
- Favicon
- Facebook & Google Analytics Session

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

info@waytowebgroup.com
www.waytowebgroup.com
www.facebook.com/waytowebpvtltd
Mo & Whats App : 8460071515

405, 3rd EYE - 2 Building, Above MaCdonald, Near Joyalukkas,
Opp : Parimal Garden, Panchavati Cross Road, Ambawadi,
Ahmedabad 380006, Gujarat, India,
Ph : 079 - 4004 1819

Joomla -------17 HOURS

- Introduction of joomla
- Installing Joomla CMS
- Creating Categories
- Creating Articles
- Creating Menus
- Setting Display Options
- Modules display
- Components display
- Templates display
- Change Template
- Install Template

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

Prerequisite for Workshop

- Passion to learn new creative things
- Knowledge of how to use Technology.
- Having basic knowledge of Web & Mobile Technology.
- Having Methodical knowledge of Web & Mobile Technology.

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

info@waytowebgroup.com
www.waytowebgroup.com
www.facebook.com/waytowebpvtltd
Mo & Whats App : 8460071515

405, 3rd EYE - 2 Building, Above MaCdonald, Near Joyalukkas,
Opp : Parimal Garden, Panchavati Cross Road, Ambawadi,
Ahmedabad 380006, Gujarat, India.
Ph : 079 - 4004 1819

# BOOTSTRAP 30 HOURS

1. Introduction of bootstrap -- 5 HOURS
2. Bootstrap containers -- 2 HOURS
3. Bootstrap grid – 3 HOURS
4. Bootstrap colors – 5 HOURS
5. Bootstrap images – 5 HOURS
6. Bootstrap buttons – 5 HOURS
7. Bootstrap navbar – 3 HOURS
8. Demo for creating static website – 2 HOURS

FACULTY OF SCIENCE

Marwadi University

# Syllabus Of Value-Added Courses imparting transferable and life skills offered in last five years ( 2017-22)

**Faculty of Science**
**Department of Mathematics**
**Programme Name: Master of Science, Mathematics**
**Programme Code: 02MA**

Marwadi University

**Syllabus for Faculty of Science**

**Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Subject Code: MTCP4429**

**Subject Name: Mental Toughness Certification Program**

**(Semester I)**

**Branch: Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Objective:** To give insights on advanced concepts of mental toughness which will help students to gain knowledge about different advanced mental toughness activities.

**Credits Earned:** 0 Credit

**Course Outcomes:** After completion of this course, student will be able to:

- This course will help students to improve their mental toughness by working on the 4 pillars of mental toughness (i.e. Cognitive abilities - Control over emotions - Commitment - Confidence) and which can help students to improve their academic performance and career planning.

**Pre-requisite of course:** NA.

**Teaching and Examination Scheme**

| Teaching Scheme (Hours) | | | Credits | Theory Marks | | | Tutorial/ Practical Marks | | Total Marks |
|---|---|---|---|---|---|---|---|---|---|
| Theory | Tutorial | Practical | | ESE (E) | Mid Sem (M) | Internal (I) | Viva (V) | Term work (TW) | |
| 30 | 0 | 0 | 0 | 00 | 00 | 00 | 00 | 00 | 00 |

Head,
Department of Mathematics,
Marwadi University, Rajkot

Marwadi University

**Syllabus for Faculty of Science**

**Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Contents:**

| Unit | Topics | Contact Hours |
|---|---|---|
| 1 | **Orientation**<br>Course outline, discussion on the importance of mental toughness, and brief about4 C's of mental toughness. | 2 |
| 2 | **Power of Cognitive Skills**<br>Introduction to different practical cognitive skills exercises Concentration – Understanding Power of Concentration, Research on Concentration, Concept of Flow state of Mind, concentration exercises – Attention Span, Concentration Grid, Watch the Watch, Mind Body Coordination, Breathing Exercise, SH Music.<br>Memory – Introduction to Memory, Science behind Memory (Research on Memory & its mechanism, Spaced Repetition Technique. Memory Exercises – Working Memory, practicing memory with the help of software.<br>Executive Functioning – Introduction to Executive Functioning, Importance of executive functioning, exercise to develop executive functioning. | 7 |
| 3 | **Stay Committed towards the purpose of your life**<br>Understanding Commitment, importance of commitment in the life of students, Research on how commitment helps.<br>S.W.O.T analysis – Understanding the concept of S.W.O.T analysis through activity.<br>GOAL Setting – S.M.A.R.T Goals, Short Term – Medium Term – Long Terms Goals. Goal Setting Activities - Wheel of Fortune, 4 Step Goal Setting Process.<br>Visualizations – Power of Visualization, Research studies on Visualization, Visualization Activity, Vision Board, Time Management – Importance of Time Management, 4 Steps Activity to Manage Time.<br>Understanding the concept of IKIGAI & KAIZEN. | 8 |
| 4 | **Control your emotions for Wellness**<br>Importance of Thoughts, Research study by Dr. Emoto., Power of Positivity, Concept of Mind, Conscious & Sub conscious mind Showcase different concepts & activities (Make Someone smile, Attitude of Gratitude, Situational Controls, Convert Negative into positives, Types of thoughts, Anger & Fear Management, Pranayama, Guided Meditation) which will help students to have control over emotions. | 8 |

Rubhanshu Gaur

| | | |
|---|---|---|
| 5 | **Self-Belief – Unleash the power within you**<br>Importance of Self Belief, Showcase different concepts & activities (Belief in Yourself & Confidence Building Tips to enhance confidence in students. | 4 |
| 6 | **Evaluation & Feedback:**<br>Evaluation of Course Understanding and recording feedback of students on completion of the course. | 1 |
| | **Total Hours** | **30** |

**References:**


- Developing Mental Toughness: Improving Performance, Wellbeing and Positive Behaviour in Others. Peter Clough, Doug Strycharczyk. Kogan Page Publishers, 2012. ISBN: 0749463783, 9780749463786.


**Suggested Theory distribution:**

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

| Distribution of Theory for course delivery and evaluation | | | | | |
|---|---|---|---|---|---|
| Remember | Understand | Apply | Analyse | Evaluate | Create |
| 20% | 20% | 35% | 10% | 10% | 5% |

**Instructional Method:**

a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, case studies etc.

b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

c. Students will use supplementary resources such as online videos

Head,
Department of Mathematics,
Marwadi University, Rajkot

Marwadi University

**Faculty of Science,**
**Department of Mathematics,**
**Programme Code: 02MA**
**Programme name: Master of Science, Mathematics**

**Course name: Financial Markets**

About this Course

An overview of the ideas, methods, and institutions that permit human society to manage risks and foster enterprise. Emphasis on financially-savvy leadership skills. Description of practices today and analysis of prospects for the future. Introduction to risk management and behavioral finance principles to understand the real-world functioning of securities, insurance, and banking industries. The ultimate goal of this course is using such industries effectively and towards a better society.

**Shareable Certificate**
Earn a Certificate upon completion
**100% online**
Start instantly and learn at your own schedule.
**Beginner Level**
**Approx. 33 hours to complete**

## Syllabus

W E E K 1
**6 hours to complete**

Module 1

Welcome to the course! In this opening module, you will learn the basics of financial markets, insurance, and CAPM (Capital Asset Pricing Model). This module serves as the foundation of this course.

23 videos , 1 reading, 5 quizzes

W E E K 2
**4 hours to complete**

Module 2

In this next module, dive into some details of behavioral finance, forecasting, pricing, debt, and inflation.

17 videos

Head,
Department of Mathematics,
Marwadi University, Rajkot

WEEK 3
**4 hours to complete**

Module 3

Stocks, bonds, dividends, shares, market caps; what are these? Who needs them? Why? Module 3 explores these concepts, along with corporation basics and some basic financial markets history.

18 videos

WEEK 4
**7 hours to complete**

Module 4

Take a look into the recent past, exploring recessions, bubbles, the mortgage crisis, and regulation.

22 videos

## Instructor

Robert Shiller

Sterling Professor of Economics at Yale University

Economics

Head,
Department of Mathematics,
Marwadi University, Rajkot

# List of the value-added courses imparting transferable and life skills offered in last five years (2017-22)

| Sr. No. | Course Name | Course Code (if any) | Year of Introduction |
|---|---|---|---|
| 1 | Oracle: Database Design and Programming with SQL | | 2017-18 |
| 2 | CCNA Routing and Switching: Introduction to Networks | | 2017-18 |
| 3 | CCNA Routing and Switching: Routing and Switching Essentials | | 2017-18 |
| 4 | Oracle: Database Design and Programming with SQL | | 2018-19 |
| 5 | CCNA Routing and Switching: Scaling Networks | | 2018-19 |
| 6 | CCNA Routing and Switching: Connecting Networks | | 2018-19 |
| 7 | Coursera: Linux Server Management and Security | | 2021-22 |
| 8 | Coursera: HTML, CSS and JavaScript for Web Developers | | 2021-22 |
| 9 | Microsoft Azure AI Fundamentals | | 2021-22 |
| 10 | MTA: Introduction to Programming using HTML and CSS | | 2021-22 |
| 11 | MTA: Introduction to Programming using Java | | 2021-22 |
| 12 | MTA: Software Development Fundamentals | | 2021-22 |

# Database Design and Programming with SQL – Course Description

## Overview

This course engages students to analyze complex business scenarios and create a data model—a conceptual representation of an organization's information. Participants implement their database design by creating a physical database using SQL. Basic SQL syntax and the rules for constructing valid SQL statements are reviewed. This course culminates with a project that challenges students to design, implement, and demonstrate a database solution for a business or organization.

## Available Curriculum Languages:

- English, Simplified Chinese, Brazilian Portuguese, Spanish

## Duration

- Recommended total course time: 180 hours*
- Professional education credit hours for educators who complete Oracle Academy training: 60

** Course time includes instruction, self-study/homework, practices, projects, and assessment*

## Target Audiences

### Educators

- College/university faculty who teach computer programming, information communications technology (ICT), or a related subject
- Secondary school teachers who teach computer programming, ICT, or a related subject

### Students

- Students who wish to learn the techniques and tools to design, guild and extract information from a database
- Students who possess basic mathematical, logical, and analytical problem-solving skills
- Novice programmers, as well as those at advanced levels, to learning the SQL Programming language to an advanced level

## Prerequisites

### Required

- Ease with using a computer
- General knowledge of databases and query activity

### Suggested

- None

## Suggested Next Courses

- Database Programming with PL/SQL

## Lesson-by-Lesson Topics

### Database Design

Introduction
- Introduction to the Oracle Academy
- Data vs. Information
- History of the Database
- Major Transformations in Computing

Entities and Attributes
- Conceptual and Physical Models
- Entities, Instances, Attributes, and Identifiers
- Entity Relationship Modeling and ERDs

Relationship Basics
- Identifying Relationships
- ER Diagramming Conventions
- Speaking ERDish & Drawing Relationships
- Matrix Diagrams

Super/Sub Types and Business Rules
- Supertypes and Subtypes
- Documenting Business Rules

Relationship Fundamentals
- Relationship Transferability
- Relationship Types
- Resolving Many-to-Many Relationships
- Understanding CRUD Requirements

UIDs and Normalization
- Artificial, Composite, and Secondary UIDs
- Normalization and First Normal Form
- Second Normal Form
- Third Normal Form

Arcs, Hierarchies, and Recursive Modeling
- Arcs
- Hierarchies and Recursive Relationships

Changes and Historical Modeling
- Modeling Historical Data
- Modeling Change: Time
- Modeling Change: Price
- Drawing Conventions for Readability

Mapping
- Introduction to Relational Database Concepts
- Basic Mapping: The Transformation Process
- Relationship Mapping
- Subtype Mapping

Creating Database Projects
- System Development Life Cycle
- Project Overview and Getting Started

- Presentation Project Management
- Final Presentation Components

Presenting Database Projects
- Creating Tables for the Final Presentation
- Preparing Written Documentation
- Preparing Visual Materials
- Final Presentations

## Database Programming with SQL

Introduction
- Oracle Application Express
- Relational Database Technology
- Anatomy of a SQL Statement

SELECT and WHERE
- Columns, Characters, and Rows
- Limit Rows Selected
- Comparison Operators

WHERE, ORDER BY, and Intro to Functions
- Logical Comparisons and Precedence Rules
- Sorting Rows
- Introduction to Functions

Single Row Functions Part I
- Case and Character Manipulation
- Number Functions
- Date Functions

Single Row Functions Part II
- Conversion Functions
- NULL Functions
- Conditional Expressions

JOINs
- Cross Joins and Natural Joins
- Join Clauses
- Inner versus Outer Joins
- Self-Joins and Hierarchical Queries
- Oracle Equijoin and Cartesian Product
- Oracle Nonequijoins and Outer Joins

Group Functions
- Group Functions
- Oracle Nonequijoins and Outer Joins
- Using Group By and Having Clauses
- Using Rollup and Cube Operations, and Grouping Sets
- Using Set Operators

Subqueries
- Fundamentals of Subqueries
- Single-Row Subqueries
- Multiple-Row Subqueries
- Correlated Subqueries

Ensuring Quality Queries Part I
- Ensuring Quality Query Results

DML
- INSERT Statements
- Updating Column Values and Deleting Rows
- DEFAULT Values, MERGE, and Multi-Table Inserts

DDL
- Creating Tables
- Using Data Types
- Modifying a Table

Constraints
- Intro to Constraints, NOT NULL and UNIQUE Constraints
- PRIMARY KEY, FOREIGN KEY, and CHECK Constraints
- Managing Constraints

Views
- Creating Views
- DML Operations and Views
- Managing Views

Sequences and Synonyms
- Working With Sequences
- Indexes and Synonyms

Privileges and Regular Expressions
- Controlling User Access
- Creating and Revoking Object Privileges
- Regular Expressions

TCL
- Database Transactions

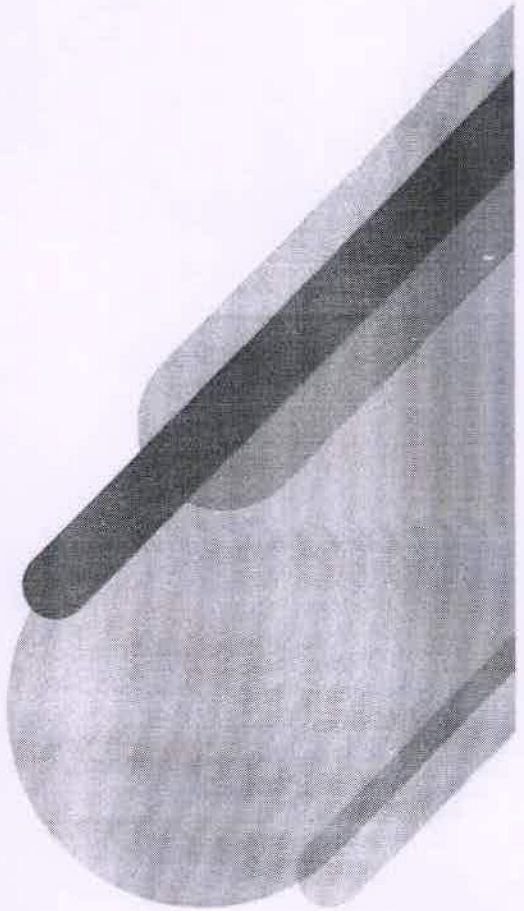
Final Project and Exam Review
- Testing
- Final Project Database Creation
- Final Exam Review

Ensuring Quality Queries Part II
- Ensuring Quality Query Results - Advanced Techniques

To search and register for events scheduled in your area, visit the Academy events calendar.

Networking Academy

# Product Catalog



November 2021

Networking Academy

# Prepare the workforce of the future

Leading-edge curriculum designed to educate students for jobs of today and tomorrow

# Types of Course Offerings

## Explore Courses

*Easy starting points to explore opportunities in technology*

- No prerequisites
- No cost
- Typically self–paced
- Between 8–30 hours

## Career Courses

*Equip students with real job skills for entry-level positions*

- Aligned to industry-valued certifications
- Typically instructor-led and 70 hours of instruction time
- Integrated hands-on practice and interactive experiences

## Complementary Offerings

Extend your teaching with courses from Networking Academy partners

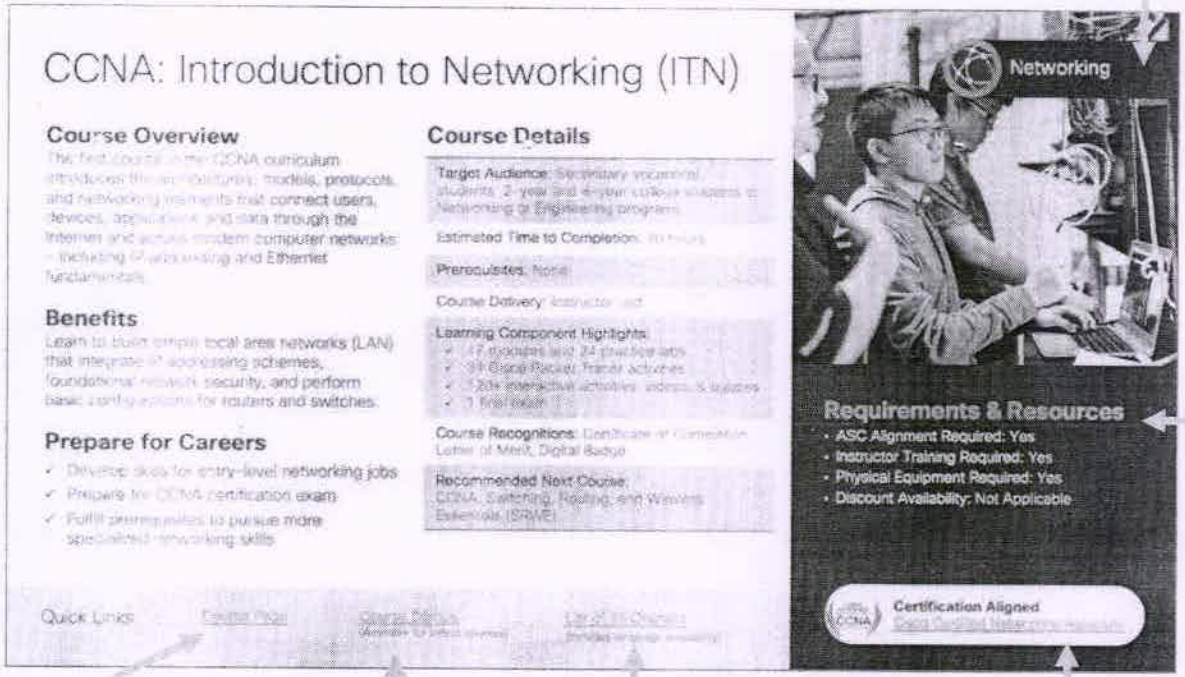
- Aligned to industry-valued certifications
- Some self-paced courses
- Some instructor-led courses for 70 hours of instruction time

## Practice

Learning tools, hands-on labs, and interactive experiences are integrated into courses to build skills, not just knowledge

# In This Catalog

Easy navigation by course category.




ASC Alignment Required: Due to the technical nature of some courses, Networking Academy may require that your institution receive support from an Academy Support Center (ASC).

Instructor Training Required: Some courses require accreditation or instructor training to ensure quality learning outcomes for your students.

Physical Equipment Required: Lab equipment may be required depending on the course.

Discount Availability: Discounts are available for select certification exams, for individuals meeting eligibility criteria.

Find the course page on NetAcad.com.

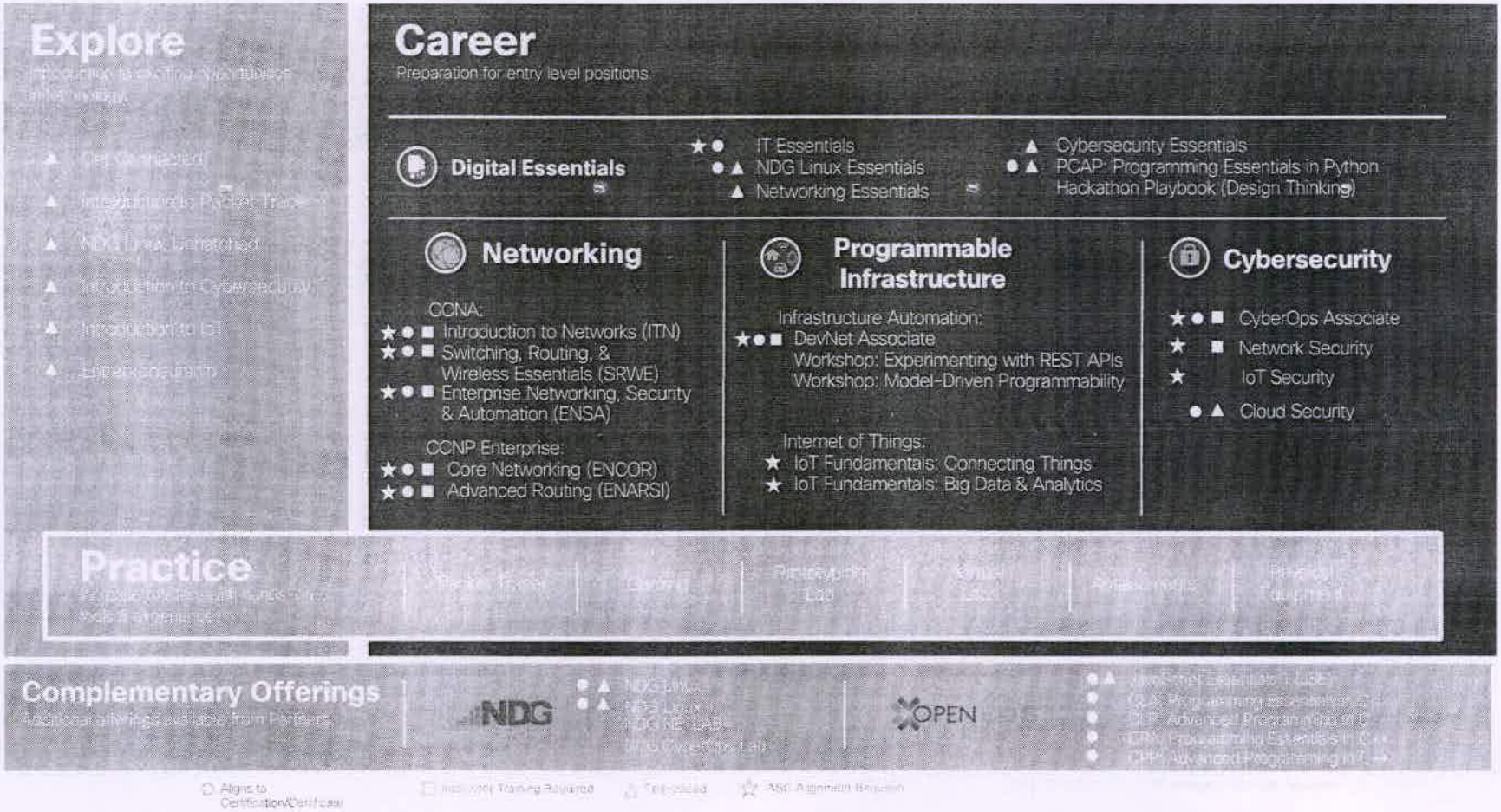
Course Demos are available for select courses to preview the content.

Explore the full Networking Academy course list online and filter by language. There is also a language summary matrix at the end of this catalog.

See which courses align with a certification, or get other tips about the course.

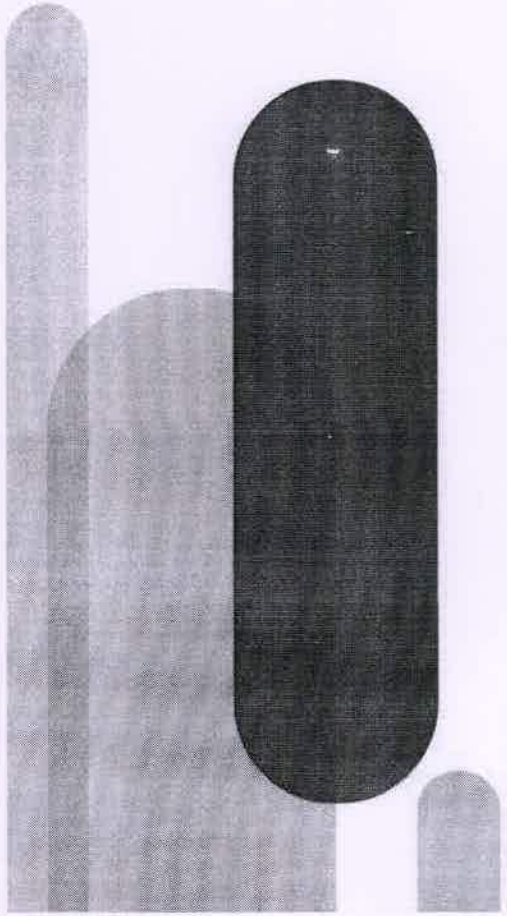
# Networking Academy Curriculum Portfolio

11.04.2021




Aligns to Certification/Certificate

# Networking



# Networking Essentials

## Course Overview

Networking Essentials teaches networking based on environments students may encounter in daily life, including small office and home office networking. This course provides an engaging, self-paced learning experience using Packet Tracer simulation, interactive activities, and learning with your own devices at home.

## Benefits

Develop a foundational understanding of the high-level network architecture and how a network operates.

## Prepare for Careers

- For developers, cybersecurity, business analysts, or other professionals: gain essential networking knowledge
- For students: a launching point for many career pathways, from cybersecurity to software to business and more

## Course Details

Target Audience: High school, secondary and 2-year college vocational students, college and university students studying IT and non-IT fields, career changers

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Self-Paced, Instructor-led

Learning Component Highlights:
- ✓ 20 modules and 19 practice labs
- ✓ 24 Cisco Packet Tracer activities
- ✓ 130+ interactive activities, videos, & quizzes
- ✓ 5 module exams
- ✓ 1 final exam and 1 skills assessment (Instructor-led only)

Course Recognitions: Certificate of Completion, Digital Badge (Instructor-led only)

Recommended Next Course:
CCNA: Introduction to Networks (ITN), Cybersecurity Essentials, or DevNet Associate

Quick Links

Course Page

Course Demo
(Available for select courses)

List of All Courses
(Includes language availability)


## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: Optional
- Physical Equipment Required: No (uses Packet Tracer and devices you already have at home)
- Voucher Availability: Not Applicable

PT **Practice with Cisco Packet Tracer**

# CCNA: Introduction to Networking (ITN)

## Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

## Benefits

Learn to build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 17 modules and 24 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 120+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
CCNA: Switching, Routing, and Wireless Essentials (SRWE)

Quick Links: Course Flyer | Course Frames (Available for select courses) | List of All Courses (Includes language availability)


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes*
- Discount Availability: Not Applicable

*Includes Distance Learning option with Packet Tracer if lab equipment is not available

**Certification Aligned**
Discounted Networking Academy

# CCNA: Switching, Routing, and Wireless Essentials (SRWE)

## Course Overview

The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts.

## Benefits

Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering programs

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:
- ✓ 16 modules and 14 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 70+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course:
CCNA: Enterprise Networking, Security, and Automation (ENSA)


## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes*
- Discount Availability: Not Applicable

*Includes Distance Learning option with Packet Tracer if lab equipment is not available

**Certification Aligned**
Cisco Certified Networking Associate

Quick Links

Course Page

Course Demos
(Available for select courses)

List of All Courses
(includes language availability)

# Linux Server Management and Security

4.6 829 ratings • 230 reviews

Sponsored by Marwadi Integrated Learning & Analysis Programme - MILAP

Offered by

## About this Course

Whether you are accessing a bank website, Netflix or your home router, chances are that your computer is interacting with a Linux system. The world runs on Linux. In this course, we will dive into how Linux works from an enterprise perspective.

In week 1 we will look at what Linux is used for in the enterprise. By the end of week 1, you will be able to differentiate between different versions of Linux and understand how they are used in an enterprise environment. In week 2, we will explore how Linux systems are configured. By the end of week 2, you will be able to demonstrate different Linux commands and how they are used. You will also be able to interact with a Linux system. In week 3, we will explore Linux authentication mechanisms and how to add users and user controls to a Linux system. By the end of week 3, you should be able to demonstrate how to appropriately add users to a Linux machine and secure them. In week 4, we will explore how to harden a Linux system. By the end of week 4, you should be able to classify different technologies to secure Linux and differentiate access control methods for Linux applications.

**Flexible deadlines**
Reset deadlines in accordance to your schedule.

**Shareable Certificate**
Earn a certificate upon completion issued by the institution that created the course.

**100% online**
Start instantly and learn at your own schedule.

**Intermediate Level**

**Approx. 13 hours to complete**

WEEK 1

4 hours to complete

### Introduction to Practical Linux System Management

Welcome to the first module! This module will cover key aspects of the course in addition to discussing Linux in the enterprise and distributions.

4 videos • 2 readings • 2 quizzes See All

WEEK 2

3 hours to complete

### Configuring Linux in the Enterprise

This module covers the installation and configuration of Linux in an enterprise setting.

See All

WEEK 3

Users, authentication and authorization in a Linux environment

This module describes the essentials of managing users in the enterprise.

See All

WEEK 4

Securing Linux in the Enterprise

This module covers Linux security. What does a system administrator need to know in order to adequately protect their systems.

4 videos , 4 readings, 2 quizzes See All

WEEK 5

Practical Linux Administration - Project

See All

Show Less

**4.6** ☆☆☆☆☆ 829 ratings • 230 reviews

Top Reviews

☆☆☆☆☆ By AA • MAY 13TH 2018

Truly enlightening course. Can be taken by novices who want to get started with Enterprise Linux and also by professionals looking to up their skills. Highly recommended.

☆☆☆☆☆ By DH • FEB 28TH 2021

Excellent instructor who has a lot of practical knowledge of network security. I would certainly enroll in another course if it were offered through the same instructor.

# 4.6

829 ratings • 230 reviews

## Top Reviews

By AA • MAY 13TH 2018

Truly enlightening course. Can be taken by novices who want to get started with Enterprise Linux and also by professionals looking to up their skills. Highly recommended.

By SS • MAY 22ND 2021

Got introduced to a lot of new systems used in this domain. Definitely recommend anyone interested to check out. Well explained content. Thanks for sharing!

By DN • FEB 28TH 2021

Excellent instructor who has a lot of practical knowledge of network security. I would certainly enroll in another course if it were offered through the same instructor.

By HP • FEB 2ND 2018

The course was excellent and the instructor was amazing. The course material was well prepared and very clear. I strongly recommend this course!

Show More

## Instructor

Greg Williams

Lecturer

Department of Computer Science

# HTML, CSS, and Javascript for Web Developers

Offered by: JOHNS HOPKINS UNIVERSITY

4.7 (3,952 ratings • 6,867 reviews)

Sponsored by Marwadi Integrated Learning & Analysis Programme - MILAP

## About this Course

Did you realize that the only functionality of a web application that the user directly interacts with is through the web page? Implement it poorly and, to the user, the server-side becomes irrelevant. Today's user expects a lot out of the web page: it has to load fast, explode the desired service, and be comfortable to view on all devices from a desktop computers to tablets and mobile phones.

In this course, we will learn the basic tools that every web page coder needs to know. We will start from the ground up by learning how to implement modern web pages with HTML and CSS. We will then advance to learning how to code our pages such that its components rearrange and resize themselves automatically based on the size of the user's screen. You'll be able to code up a web page that will be just as useful on a mobile phone as on a desktop computer. No "pinch and zoom" required! Last but certainly not least, we will get a thorough introduction to the most ubiquitous, popular, and incredible powerful language of the web: JavaScript. Using JavaScript, you will be able to build a fully functional web application that utilizes Ajax to expose server-side functionality and data to the end user.

**Flexible deadlines**
Reset deadlines in accordance to your schedule.

**Shareable Certificate**
Earn a Certificate upon completion

**100% online**
Start instantly and learn at your own schedule.

**Approx. 40 hours to complete**

**English**
Subtitles: Arabic, French, Portuguese (European), Italian, Vietnamese, Korean, German, Russian, English, Japanese

## Syllabus - What you will learn from this course

WEEK 1

9 hours to complete

### Introduction to HTML5

In this module we will learn the basics of HTML5. We'll start with instructional videos on how to set up your development environment, go over HTML5 basics like valid document structure, which elements can be included inside other elements and which can not, discuss the meaning and usefulness of HTML5 semantic tags, and go over essential HTML5 tags.

15 videos, 7 readings, 12 quizzes **See All**

WEEK 2

11 hours to complete

### Introduction to CSS3

A lot of people "falter" with CSS. In this module, we'll take you from the very basics of CSS3 to some fairly advanced concepts like floating and CSS cascade resolution. We'll go over the box model, background property, etc. We'll finish off the module with learning about responsive design using our own CSS code as well as start introducing Twitter Bootstrap with its essential Grid System.

WEEK 3

7 hours to complete

## Coding the Static Restaurant Site

Ready for some REAL fun? This module is it! We'll go over some basics of interacting with a client when managing a web site project and then go visit a real client at their place of business (a Chinese restaurant), help the owner figure out what she wants in a site, and get acquainted with the restaurant in general. We'll spend the rest of the module building a real web site for this business from scratch and you'll get to sit next to me and watch as the site comes together.

See All

WEEK 4

## Introduction to Javascript

What fun would a web site be if there was no functionality to it? In this module, we are going to concentrate on learning the fundamentals of the Javascript language. A lot of even seasoned developers "tinker" with Javascript without really

See All

WEEK 5

5 hours to complete

## Using Javascript to Build Web Applications

In this module, we are going to take all those newly learned Javascript language skills and learn how to utilize them within the context of a web page. We'll start by learning how to properly manipulate the web page components using the Javascript

See All

Show Less

**4.7** ★★★★★ 13,952 ratings • 4,867 reviews

Top Reviews

## Top Reviews

☆☆☆☆☆ By SM • JUN 11TH 2020

Actually the best online course I hv ever learnt,especially the professor yaakov is quiet outstanding.And a field trip in a online course sounds rare and good!Thank you Coursera and yakkov for this!!

☆☆☆☆☆ By SW • MAR 15TH 2016

This was a really great course. I learned so much, and it was really interesting and very well explained. I will be taking any more courses done by Yaakov! Really excellent course, thank you so much

☆☆☆☆☆ By YV • MAY 31ST 2020

Many thanks to the creators of this course! It was a very solid refresher for me, even though I have spent in web development a few years by now. I thoroughly enjoyed every lesson. Thank you, Yaakov!

☆☆☆☆☆ By AT • JUL 18TH 2021

This was a really great course. I learned so much, and it was really interesting and very well explained.And the field trip was good .Thank you Coursera and Yaakov Chaikin for this wonderful course !

Show More

## Instructor

Yaakov Chaikin

Adjunct Professor, Graduate Computer Science

# Exam 98-383: Introduction to Programming using HTML and CSS

Candidates for this exam should be able to recognize and write syntactically correct HTML and CSS, structure data using HTML elements, and create and apply styles using CSS.

Candidates are expected to have had, at minimum, instruction and/or hands-on experience of approximately [redacted] hours with HTML and CSS, be familiar with their features and capabilities, and understand how to write, debug, and maintain well-formed HTML and CSS code.

*Language version: HTML5 and CSS3*

**Microsoft**
Technology Associate

## Objective Domain

### Understand HTML Fundamentals

- **Construct markup that uses metadata elements.**
  - Script; noscript; style; link; meta tags, including encoding, keywords, viewport, and translate
- **Construct well-formed markup that conforms to industry best practices.**
  - DOCTYPE declaration; HTML; head; body; proper syntax, including closing tags and commonly used symbols; comments

### Understand CSS Fundamentals

- **Analyze the impact of using inline styles, internal style sheets, and external style sheets.**
  - When to use each; precedence when using a combination of inline styles and style sheets
- **Construct and analyze rule sets.**
  - Valid syntax for the CSS rule set; selectors, including class, id, elements and pseudo-class
- **Construct well-formed style sheets that conform to industry best practices.**
  - Reusing rules and rule sets; commenting; testing on multiple browsers; web safe fonts

# Exam 98-383: Introduction to Programming using HTML and CSS

## Structure Documents Using HTML

- **Construct and analyze markup to structure content and organize data.**
  - Table tags; h1-h6; p; br; hr; div; span; ul; ol; li
- **Construct and analyze markup that uses HTML5 semantic elements.**
  - Semantic tags: header; nav; section; article; aside; footer; details; summary; figure; caption
- **Construct and analyze markup that implements navigation.**
  - Image links; a; target; bookmark; relative vs absolute links; navigating simple folder hierarchies
- **Construct and analyze markup that uses form elements.**
  - Form attributes: action; method; submission methods; accessibility; input types and restrictions; select; textarea; button; output; option, datalist; fieldset

## Present Multimedia Using HTML

- **Construct and analyze markup that displays images.**
  - img and picture elements and their attributes
- **Describe the appropriate use of the img, svg, and canvas elements.**
- **Construct and analyze markup that plays video and audio.**
  - Video; audio; track; source; simple iframe implementations

## Style Web Pages Using CSS

- **Construct and analyze styles that position content.**
  - Positioning, including float, relative, absolute, max-width, overflow, height, width, and align; inline vs block; visibility; box model, including margins and padding
- **IConstruct and analyze styles that format text.**
  - Font-family, color, font-style, font-size, font-weight; link colors; text formatting, including text alignment, text decoration, and indentation
- **Construct and analyze styles that format backgrounds and borders.**
  - Border-color; border-style; border-width; backgrounds; divs; colors
- **Analyze styles that implement a simple responsive layout.**
  - Units of measure; responsive effects with CSS, including viewport and media query; percentages vs pixels; frameworks and templates; max width

# Exam 98-388: Introduction to Programming using Java

This is an entry level certification that is intended for application developers working with Java. The MTA exams are targeted at secondary and immediate post-secondary level students of software development, and other entry-level software developers. The code in the 98-388: Introduction to Programming Using Java exam, uses Java SE. The syntax used in this exam is compatible with Java 6 SE through the most recent release.

Those Java developers and students require instruction and/or hands-on experience (150 hours) with Java, are familiar with its features and capabilities, and understand how to write, debug and maintain well-formed, well documented Java code.

**Microsoft**
Technology Associate

## Objective Domain

### Understand Java Fundamentals

- **Describe the use of main in a Java application.**
  - Signature of main, why it is static; how to consume an instance of your own class; command line arguments
- **Perform basic input and output using standard packages.**
  - Print statements; importing and using the Scanner class
- **Evaluate the scope of a variable.**
  - Declaring a variable within a block, class, method
- **Declare and use primitive data type variables.**
  - Data types include byte, char, int, double, short, long, float, boolean; identify when precision is lost; initialization; how primitives differ from wrapper object types such as Integer and Boolean
- **Construct and evaluate code that manipulates strings.**
  - String class and string literals, comparisons, concatenation, case and length; String format methods; string operators; converting a primitive data type to a string; the immutable nature of strings; initialization; null
- **Construct and evaluate code that creates, iterate, and manipulates arrays and array lists.**
  - One- and two-dimensional arrays, including initialization, null, size, iterating elements, accessing elements; array lists, including adding and removing elements, traversing the list

### Work with Data Types, Variables, and Expressions

# Exam 98-388: Introduction to Programming using Java

## Work with Data Types, Variables, and Expressions

- **Construct and evaluate code that performs parsing, casting and conversion.**
  - Implementing code that casts between primitive data types, converts primitive types to equivalent object types, or parses strings to numbers
- **Construct and evaluate arithmetic expressions.**
  - Arithmetic operators, assignment, compound assignment operators, operator precedence

## Implement Flow Control

- **Construct and evaluate code that uses branching statements.**
  - If, else, else if, switch; single-line vs. block; nesting; logical and relational operators
- **Construct and evaluate code that uses loops.**
  - While, for, for each, do while; break and continue; nesting; logical, relational, and unary operators

## Perform Object-Oriented Programming

- **Construct and evaluate a class definition.**
  - Constructors; constructor overloading; one class per .java file; this keyword; inheritance and overriding at a basic level
- **Declare, implement, and access data members in a class.**
  - Private, public, protected; instance data members; static data members; using static final to create constants; describe encapsulation
- **Declare, implement, and access methods.**
  - Private, public, protected; method parameters, return type, void, return value; instance methods; static methods; overloading
- **Instantiate and use a class object in a program.**
  - Instantiation, initialization, null, accessing and modifying data members; accessing methods; accessing and modifying static members; importing packages and classes

## Compile and Debug Code

- **Troubleshoot syntax errors, logic errors, and runtime errors.**
  - Print statement debugging; output from the javac command; analyzing code for logic errors; console exceptions after running the program; evaluating a stack trace
- **Implement exception handling.**
  - Try catch finally; exception class; exception class types; displaying exception information

# Exam 98-361: Software Development Fundamentals

Candidates for this exam are seeking to prove core software development skills. Before taking this exam, candidates should have a solid foundational knowledge of the topics outlined in this preparation guide. It is recommended that candidates be familiar with the concepts of and have hands---on experience with the technologies described here either by taking relevant training courses or by working with tutorials and samples available on MSDN and in Microsoft Visual Studio.

**Microsoft**
Technology Associate

## Objective Domain

### Understanding Core Programming

- **Understand Computer Storage and Data Types.**
  - how a computer stores programs and the instructions in computer memory; memory stacks and heaps; memory size requirements for the various data storage types; numeric data and textual data
- **Understand Computer Decision Structures.**
  - various decision structures used in all computer programming languages; If decision structures, multiple decision structures such as If...Else and switch/Select Case; reading flowcharts; decision tables; evaluating expressions
- **Identify the Appropriate Method for Handling Repetition.**
  - For loops, While loops, Do..While loops, and recursion
- **Understand Error Handling.**
  - structured exception handling

### Understanding Object-Oriented Programming

- **Understand the Fundamentals of Classes.**
  - properties, methods, events, and constructors; how to create a class; how to use classes in code
- **Understand Inheritance.**
  - inheriting the functionality of a base class into a derived class
- **Understand Polymorphism.**
  - extending the functionality in a class after inheriting from a base class; overriding methods in the derived class
- **Understand Encapsulation.**
  - creating classes that hide their implementation details while still allowing access to the required functionality through the interface; access modifiers

# Exam 98-361: Software Development Fundamentals

## Understanding General Software Development

- **Understand Application Life Cycle Management.**
  - phases of application life cycle management; software testing
- **Interpret Application Specifications.**
  - reading and translating application specifications into prototypes, code, and components
- **Understand Algorithms and Data Structures.**
  - arrays, stacks, queues, linked lists, and sorting algorithms; performance implications of various data structures; choosing the right data structure

## Understanding Web Applications

- **Understand Web Page Development.**
  - HTML, Cascading Style Sheets (CSS), JavaScript
- **Understand Microsoft ASP.NET MVC Web Application Development.**
  - page life cycle; event model; state management; client-side vs. server-side programming
- **Understand Web Hosting.**
  - creating virtual directories and Web sites, deploying Web applications; understanding the role of Internet Information Services
- **Understand Web Services.**
  - Web services that will be consumed by client applications; accessing Web services from a client application; SOAP and Web Service Definition Language (WSDL)

## Understanding Desktop Applications

- **Understand Windows Store Applications.**
  - application lifecycle; navigation model; visual inheritance; UI design
- **Understand Console-Based Applications.**
  - characteristics and capabilities of console--- based applications
- **Understand Windows Services.**
  - characteristics and capabilities of Windows Service

## Understanding Databases

- **Understand Relational Database Management Systems.**
  - characteristics and capabilities of database products; database design; Entity Relationship Diagrams (ERDs); normalization concepts
- **Understand Database Query Methods.**
  - structured query language (SQL), creating and accessing stored procedures, updating data, selecting data
- **Understand Database Connection Methods.**
  - connecting to various types of data stores such as flat file; XML file; in-memory object; resource optimization

CERTIPORT
A PEARSON VUE BUSINESS

# Microsoft Azure AI Fundamentals: AI-900

## EXAM DESIGN

**Audience Profile**

Candidates for this exam should have foundational knowledge of machine learning (ML) and artificial intelligence (AI) concepts and related Microsoft Azure services.

This exam is an opportunity to demonstrate knowledge of common ML and AI workloads and how to implement them on Azure.

This exam is intended for candidates with both technical and non-technical backgrounds. Data science and software engineering experience are not required; however, some general programming knowledge or experience would be beneficial.

Azure AI Fundamentals can be used to prepare for other Azure role-based certifications like Azure Data Scientist Associate or Azure AI Engineer Associate, but it is not a prerequisite for any of them.

# Objective Domains

## SKILLS MEASURED

- NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.
- NOTE: In most cases, exams do NOT cover preview features, and some features will only be added to an exam when they are GA (General Availability).

### Describe Artificial Intelligence workloads and considerations (15-20%)

**Identify features of common AI workloads**

- Identify prediction/forecasting workloads
- Identify features of anomaly detection workloads
- Identify computer vision workloads
- Identify natural language processing or knowledge mining workloads
- Identify conversational AI workloads

**Identify guiding principles for responsible AI**

- Describe considerations for fairness in an AI solution
- Describe considerations for reliability and safety in an AI solution
- Describe considerations for privacy and security in an AI solution
- Describe considerations for inclusiveness in an AI solution
- Describe considerations for transparency in an AI solution
- Describe considerations for accountability in an AI solution

Microsoft

# Azure AI Fundamentals

## Describe fundamental principles of machine learning on Azure (30-35%)

**Identify common machine learning types**

- Identify regression machine learning scenarios
- Identify classification machine learning scenarios
- Identify clustering machine learning scenarios

**Describe core machine learning concepts**

- Identify features and labels in a dataset for machine learning
- Describe how training and validation datasets are used in machine learning
- Describe how machine learning algorithms are used for model training
- Select and interpret model evaluation metrics for classification and regression

**Identify core tasks in creating a machine learning solution**

- Describe common features of data ingestion and preparation
- Describe feature engineering and selection
- Describe common features of model training and evaluation
- Describe common features of model deployment and management

**Describe capabilities of no-code machine learning with Azure Machine Learning Studio**

- Automated ML Wizard UI
- Azure Machine Learning designer

## Describe features of computer vision workloads on Azure (15-20%)

**Identify common types of computer vision solution:**

- Identify features of image classification solutions
- Identify features of object detection solutions
- Identify features of optical character recognition solutions
- Identify features of facial detection, facial recognition, and facial analysis solutions

**Identify Azure tools and services for computer vision tasks**

- Identify capabilities of the Computer Vision service
- Identify capabilities of the Custom Vision service
- Identify capabilities of the Face service
- Identify capabilities of the Form Recognizer service

## Describe features of Natural Language Processing (NLP) workloads on Azure (15-20%)

**Identify features of common NLP Workload Scenarios**

- Identify features and uses for key phrase extraction
- Identify features and uses for entity recognition
- Identify features and uses for sentiment analysis
- Identify features and uses for language modeling
- Identify features and uses for speech recognition and synthesis
- Identify features and uses for translation

**Identify Azure tools and services for NLP workloads**

- Identify capabilities of the Text Analytics service
- Identify capabilities of the language understanding service
- Identify capabilities of the Speech service
- Identify capabilities of the Translator Text service

## Describe features of conversational AI workloads on Azure (15-20%)

**Identify common use cases for conversational AI**

- Identify features and uses for webchat bots
- Identify common characteristics of conversational AI solutions

**Identify Azure services for conversational AI**

- Identify capabilities of the QnA Maker service
- Identify capabilities of the Azure Bot service

Marwadi University

# Faculty of Technology

## B. Tech. in Electrical Engineering

# HARDWARE ACADEMY

**Overview**

Arduino workshop will focus on getting you up and running with Arduino quickly, so that you will understand the basic procedures for working with Arduino and can explore further on your own. An Arduino is a small computer that you can program to control things like lights or motors along with listening to components like motion detection sensors. It can give your project interactivity without needing an expensive and large circuit. Instead, you use a computer to program the Arduino, upload your code to the Arduino, and hook up your circuit.

- **Course Outcome**

  At The End Of The Students Will Be Able To

  1. Understand What Is Arduino Programming, It's Basic Concepts, Structures, And Keywords
  2. Differentiate Between Digital And Analog Pin .Be Productive With The Arduino Ide, Write, Compile And Upload Sketches, Install Libraries
  3. Write Simple Arduino Sketches That Can Get Sensor Reading, Make Leds Blink, Write Text On An Lcd Screen, Read The Position Of A Potentiometer, And Much More.
  4. Describe How The Arduino Serial Library Performs Serial Communication

Head of the Department
Electrical Engineering
Marwadi University

**Member of Club**

1 Dr. Amit Ved
Associate Professor & HOD
Electrical Engineering
Marwadi University

2 Dr. Tapan Trivedi
Assistant Professor
Electrical Engineering
Marwadi University

3 Prof. Uvesh Sipai
Assistant Professor
Electrical Engineering
Marwadi University

Head of the Department
Electrical Engineering
Marwadi University

- **Detailed Session Plan**
  - **Module 1 – Session 1 – 10 hr**
    1. Introduction To Embedded System
    2. Applications & Scope Of Embedded System In Various Industries
    3. Introduction To Open Source Platform
    4. An Overview Of Open Hardware
    5. Arduino Board Description
    6. Introduction To Microcontroller, Introduction To Software Tool Chain
    7. Software Installation
    8. Getting Started With The Arduino Ide To Start Writing Your First Program
  - **Module 1 – Session 2 – 10 hr**
    1. Types Of Leds.
    2. How Leds Works?
    3. How Leds Will Glow In Sequence?
    4. Interfacing Of Led With Arduino
    5. Multiple Led With Arduino
  - **Module 1 – Session 3 – 10 hr**
    1. Increase And Decrease Led Bright Ness Using Pwm
    2. Using For Loop For Increase Led Brightness.

Head of the Department
Electrical Engineering
Marwadi University

Marwadi University

# MARWADI UNIVERSITY
# FACULTY OF COMPUTER APPLICATIONS
## Master of Science in Cyber Security and Cyber Law

---

## Syllabus of the Value-added Courses
## (2017-22)

Marwadi University | FINISHING SCHOOL | DST Department of Science & Technology Government of Gujarat

# Course Highlights

| | |
|---|---|
| **Course Id** | |
| **Course Title** | Blockchain Technology |
| **Objectives of the Course** | |
| **Prerequisites** | |
| **Who can join** | |
| **Duration** | 30 Hours |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT *

# Course Content

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1 | Module_1 | Blockchain Fundamentals_ Introduction.<br>Blockchain Concept.<br>Introduction to Ethereum and DAPPS.<br>Setting up a development Environment.<br>Understanding Smart Contract.<br>Sample Application Food Safe. | 5 |
| 2 | Module _2 | The state of Blockchain _<br>Trust in the Digital Era.<br>Exploring Bitcoin.<br>Defining Blockchain.<br>What should you Store on Blockchain?<br>Do you actually need a Blockchain? | 5 |
| 3 | Module_3 | Developing Application on Ethereum Blockchain_<br>Ethereum Protocol.<br>Getting Started with Smart Contracts.<br>Solidity Programming Language.<br>Ethereum API.<br>Truffle Framework.<br>Developing Advanced Smart Contracts.<br>Web Application with Ethereum. | 5 |
| 4 | Module_4 | Deploying Ethereum with AWS Blockchain Templates_<br>Introducing Ethereum.<br>Using Aws Blockchain Templates for Ethereum.<br>Deploying a simple smart Contracts App to the networks. | 5 |
| 5 | Module_5 | Building Blockchain With Hyper ledger_<br>Introduction to Hyper ledger.<br>Building a hyper ledger Fabric network.<br>Working with hyper ledger Iroha.<br>Working with Hyper ledger Sawtooth.<br>Deploying Blockchain Using hyper ledger cello. | 5 |
| 6 | Module_6 | Deploying Hyperledger Fabric with AWS Blockchain Templates_ Introducing Hyperledger Fabric.<br>Using AWS Blockchain Templates for Hyperledger Fabric.<br>Building an Application for the Hyperledger Fabric network. | 5 |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

# Course Highlights

| | |
|---|---|
| **Course Id** | |
| **Course Title** | ETHICAL HACKING |
| **Objectives of the Course** | |
| **Prerequisites** | |
| **Who can join** | |
| **Duration** | 40 Hours |

MARWADI UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS
RAJKOT

# Course Content

| Sr. No. | Module | Content | Hours |
|---|---|---|---|
| 1 | Information Gathering | Introduction to Hacking<br>OSINT Framework<br>Types of Information Gathering<br>Practical's | 6 |
| | Scanning & Enumeration | Introduction to Scanning<br>NMAP<br>NMAP advanced commands<br>Nessus<br>OWASP ZAP<br>Practical's | |
| 2 | DoS and DDoS Attack | Introduction to denial of service<br>Slowloris<br>Countermeasures<br>Practicals | 10 |
| | SQL Injection | Basic Theory<br>Intro to OWASP TOP 10<br>Types of SQL injection<br>Countermeasures<br>Practicals | |
| 3 | Windows Hacking | Architecture of windows<br>SAM File<br>Windows Trojan<br>Kerberos (Mimikatz)<br>Bypassing Login Password<br>Countermeasures | 9 |
| | Android Hacking | Architecture of Android<br>Android Trojans<br>Introduction to Android Botnets<br>Countermeasures | |
| 4 | Exploitation | Introduction to Kali OS<br>Introduction to Metasploit<br>MsfVenom<br>Exploiting windows<br>Exploiting android<br>Practicals | 10 |
| | Advanced Exploitation | Post Exploitation Modules<br>Bypassing UAC<br>Practicals | |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT

| | | | |
|---|---|---|---|
| 5 | Malware (virus, worm, trojan)<br><br>Q & A Session | Introduction to Viruses<br>Types of Viruses<br>Introduction to Worms<br>Case Study<br>Introduction to Trojans<br>Types of Trojans<br>Countermeasures<br><br>Doubt Clearing session<br>QUIZ<br>Certificate | 5 |

MARWADI UNIVERSITY * FACULTY OF COMPUTER APPLICATIONS * RAJKOT *

Marwadi University

Faculty of Technology
Civil Engineering Department

**Value Added Course**
**Field Training-I (Surveying)**

Dear Students, Civil Engineering Department, Marwadi University happy to announce that value added course will be introduced for the civil engineering students to imbibe the employability and skill development of the students. This course covers various aspect of the Survey on any kind of terrain. Course schedule and detail planning as follows. Interested Student needs to submit registration details on or before 02/09/2017.

**Resource Person: Prof. Bhavik Daxini, Civil Engineering Department**

Starting Date: 04/09/2017

Ending Date: 09/09/2017

| Sr. No. | Schedule | Activity | Location |
|---|---|---|---|
| 1 | 04/09/2017 | Understanding Basic Concept of Surveying | MB001 |
| | | Visit of the Surveying Laboratory | MB010 |
| | | Preparation of map – Plane Table Survey (Traversing Method) | Field Work |
| 2. | 05/09/2017 | Understanding of Basic concept of the theodolite | MB001 |
| | | Measurement of horizontal Angle & Its Application | Field Work |
| 3. | 06/09/2017 | Measurement of vertical Angle & Its Application | Field Work |
| 4. | 07/09/2017 | Understanding the concept of the curve | MB001 |
| | | Setting out of simple circular curve by various methods | Field Work |
| 5. | 08/09/2017 | Setting out of the building by circumscribing rectangle method | Field Work |
| | | Preparation of the contour map | Field Work |
| 6. | 09/09/2017 | Identification of the area by Total station | Field work |

For Registration Kindly give the following details

1. Name: .....
2. Enrollment No.: .....
3. Mobile No.: .....
4. Class/ Division: .....

Head of the Department
Civil Engineering
Marwadi University

Marwadi University

Faculty of Technology
Civil Engineering Department

# Civil Cricket League

Dear Students,

Civil Engineering Department, Marwadi University happy to announce that value added course will be introduced for the civil engineering students to imbibe the employability and skill development of the students. Course schedule and detail planning as follows. Interested Student needs to submit registration details on or before 02/01/2019.

**Resource Person: Prof. Darshan Parakhiya, Civil Engineering Department**

Starting Date: 07/01/2019 Ending Date: 12/01/2019

| FACULTY OF TECHNOLOGY | | | | |
|---|---|---|---|---|
| Department of Civil Engineering | | | | |
| Civil Premier League | | | | |
| Schedule of Round 1 | | | | |
| Date | Time | Match | | |
| 07-01-2019_MONDAY | 2:00 PM - 4:00 PM | 8th F3 | vs | 6th F2 |
| 07-01-2019_MONDAY | 4:00 PM - 6:00 PM | 4th TF1 | vs | 6th F3 |
| 08-01-2019_TUESDAY | 2:00 PM - 4:00 PM | 8th F2 | vs | 6th F1 |
| 08-01-2019_TUESDAY | 4:00 PM - 6:00 PM | 4th DF1 | vs | Faculty Team |
| 09-01-2019_WEDNESDAY | 2:00 PM - 4:00 PM | 8th F1 | vs | 6th TF1 |
| 09-01-2019_WEDNESDAY | 4:00 PM - 6:00 PM | 4th EF1 | vs | 4th EF2 |

For Registration Kindly give the following details

1. Name: .....
2. Enrollment No.: .....
3. Mobile No.: .....
4. Class/ Division: .....

Marwadi University

Faculty of Technology
Civil Engineering Department

# Civil Cricket League

Dear Students,
Civil Engineering Department, Marwadi University happy to announce that value added course will be introduced for the civil engineering students to imbibe the employability and skill development of the students. Course schedule and detail planning as follows. Interested Student needs to submit registration details on or before 02/01/2020.

**Resource Person: Prof. Darshan Parakhiya, Civil Engineering Department**

Starting Date: 06/01/2020 Ending Date: 20/01/2020

| Department of Civil Engineering | | | | |
|---|---|---|---|---|
| Civil Premier League - 2020 | | | | |
| Date | Time | Match | | |
| 06-01-2020 | 2:00 PM - 4:00 PM | 8th F1 | vs | 6th TF1 |
| 06-01-2020 | 4:00 PM - 6:00 PM | FACULTY TEAM | vs | 4th TF1 |
| 07-01-2020 | 2:00 PM - 4:00 PM | 6th EF2 | vs | 8th F3 |
| 07-01-2020 | 4:00 PM - 6:00 PM | 4th TF1 | vs | 8th TF1 |
| 08-01-2020 | 2:00 PM - 4:00 PM | 6th EF2 | vs | 6th EF1 |
| 08-01-2020 | 4:00 PM - 6:00 PM | FACULTY TEAM | vs | 8th TF1 |
| 09-01-2020 | 2:00 PM - 4:00 PM | 6th EF1 | vs | 8th F3 |
| 09-01-2020 | 4:00 PM - 6:00 PM | 4th EF1 | vs | 6th TF1 |

| | | | | |
|---|---|---|---|---|
| 10-01-2020 | 2:00 PM - 4:00 PM | Architecture | vs | M.E. |
| 10-01-2020 | 4:00 PM - 6:00 PM | 4th EF1 | vs | 8th F1 |
| 11-01-2020 | 9:00 AM - 11:00 AM | 4th & 6th Diploma | vs | Architecture |
| 11-01-2020 | 11:00 AM - 1:00 PM | 2nd TF1 | vs | M.E. |
| 11-01-2020 | 1:10 PM - 3:00 PM | 2nd TF1 | vs | 4th & 6th Diploma |
| SEMI FINAL | | | | |
| 16-01-2020 | 2:00 PM - 4:30 PM | | vs | |
| 16-01-2020 | 2:00 PM - 4:30 PM | | vs | |
| FINAL | | | | |
| 20-01-2020 | 2:00 PM - 5:00 PM | | vs | |

For Registration Kindly give the following details

1. Name: .....
2. Enrollment No.: .....
3. Mobile No.: .....
4. Class/ Division:.....

Marwadi University

Faculty of Technology
Civil Engineering Department

# Civil Football League

Dear Students,
Civil Engineering Department, Marwadi University happy to announce that value added course will be introduced for the civil engineering students to imbibe the employability and skill development of the students. Course schedule and detail planning as follows. Interested Student needs to submit registration details on or before 20/09/2021.

**Resource Person: Prof. Ravi Modi, Civil Engineering Department**

Starting Date: 22/09/2021

Ending Date: 24/09/2021

| FACULTY OF TECHNOLOGY | | | | |
|---|---|---|---|---|
| Department of Civil Engineering | | | | |
| Civil Football League | | | | |
| Schedule | | | | |
| Date | Time | Match | | |
| 22-09-2021_WEDNESDAY | 2:00 PM - 4:00 PM | 7TF | vs | 3TF |
| 22-09-2021_ WEDNESDAY | 4:00 PM - 6:00 PM | 5TF | vs | 1TF |
| 23-09-2021_THURSDAY | 2:00 PM - 4:00 PM | 5TF | vs | 7TF |
| 23-09-2021_THURSDAY | 4:00 PM - 6:00 PM | 1TF | vs | 3TF |
| 24-09-2021_FRIDAY | 2:00 PM - 4:00 PM | TEAM 3 | vs | TEAM 4 |
| 24-09-2021_FRIDAY | 4:00 PM - 6:00 PM | TEAM 1 | vs | TEAM 2 |

Head of the Department
Civil Engineering
Marwadi University

For Registration Kindly give the following details

1. Name: .....
2. Enrollment No.: .....
3. Mobile No.: .....
4. Class/ Division: .....

Marwadi University

Faculty of Technology
Civil Engineering Department

## Value Added Course
## Field Training-I (Hydrology & Water Resources Engineering)

Dear Students, Civil Engineering Department, Marwadi University happy to announce that value added course will be introduced for the civil engineering students to imbibe the employability and skill development of the students. This course covers measurement of hydrological parameters, Optimization Software and base land survey. Course schedule and detail planning as follows. Interested Student needs to submit registration details on or before 20/02/2022.

**Resource Person: Prof. Bhavana Ajudiya, Civil Engineering Department**

Starting Date: 21/02/2022

Ending Date: 26/02/2022

| Sr. No. | Schedule | Activity | Location |
|---|---|---|---|
| 1. | 21/02/2022 | Understanding Basic Concept of Hydrology & its application | MB009 |
| | | Visit of the Water Resources Laboratory & Survey Laboratory | MB009 |
| 2. | 22/02/2022 | Visit of Weather Station and Bhadar Reservoir | Field Work |
| 3. | 23/02/2022 | Measurement of rainfall with Non Recording Type Raingauge | Field Work |
| | | Measurement of rainfall with self-Recording Type Raingauge | Field Work |
| | | Rainfall Data Preparation | MB009 |
| 4. | 24/02/2022 | Theoretical methods of Measurement of Evaporation & Infiltration | MB009 |
| | | Measurement of Evaporation Rate | Field Work |
| | | Measurement of Infiltration rate | Field Work |
| 5. | 25/02/2022 | Learning with Optimization Tool "LINGO" | MB013 |
| 6. | 26/02/2022 | Base Land Survey of River Cross Section | Field work |

For Registration Kindly give the following details

1. Name: .....
2. Enrollment No.: .....
3. Mobile No.: .....
4. Class/ Division: .....

Head of the Department
Civil Engineering
Marwadi University

# Value Added Courses

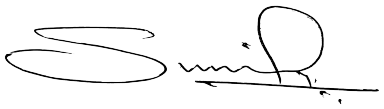
## Corporate Etiquettes

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

**Course Content:**

| Sessions | Topics | Contact Hours |
|---|---|---|
| **1.** | Workplace etiquette | 3 |
| **2.** | Table manners and meal etiquette | 4 |
| **3.** | Professionalism | 3 |
| **4.** | Communication etiquette | 3 |
| **5.** | Meetings etiquette | 2 |
| **6.** | Listening and Non verbal Communication | 3 |
| **7.** | Business Communication | 3 |
| **8.** | Resume Making and Video Resume | 2 |
| **9.** | Interview skills | 1 |
| **10.** | Networking and usage of various online platforms like LinkedIn | 2 |
| **11.** | Time Management | 2 |
| **12.** | Conflict Handling Skills | 2 |
| **Total Hours** | | **30** |



FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

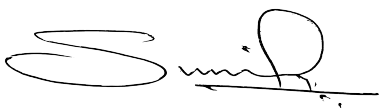
## Corporate Correspondence

## Faculty of Management Studies
## Marwadi University Rajkot

## 1.3.2 – Syllabus of Certification Course

### Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| **1.** | Job Interview Etiquette | 3 |
| **2.** | Meeting Etiquette | 2 |
| **3.** | Cubical Etiquette | 3 |
| **4.** | Email Writing | 3 |
| **5.** | Formal Letter Writing | 2 |
| **6.** | Work life Balance | 2 |
| **7.** | Team work and Collaboration | 2 |
| **8.** | Management games related to team building and team work | 2 |
| **9.** | Change Management | 3 |
| **10.** | Conflict handling and gender difference | 2 |
| **11.** | Decision Making and activity | 3 |
| **12.** | Leadership Skills | 2 |
| **Total Hours** | | **30** |



# Value Added Courses

# Personal Finance

## Faculty of Management Studies
## Marwadi University Rajkot

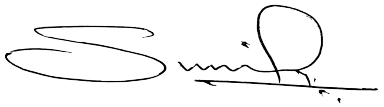
# 1.3.2 – Syllabus of Certification Course

## Course Objectives:

1) Students should learn about the importance of Financial Planning
2) Developing Financial Goals and methods to achieve the same
3) Various Investment avenues and risk-return trade-offs
4) Various retirement schemes

## Course Content:

| Sessions | Topics | Contact Hours |
|---|---|---|
| 1. | Introduction to Financial Planning | 1 |
| 2. | Need for personal Financial Management and Time Value of Money | 3 |
| 3. | Financial Goals: Importance, developments, and achievement of financial goals through Financial Planning. | 2 |
| 4. | Introduction to Investments: Objectives and needs, difference between Investment, Speculation and Gambling | 2 |
| 5. | Risk return tradeoff | 1 |
| 6. | Factors affecting choice of investments, Factors that improve investment decisions | 2 |
| 7. | Importance of diversification in investment decisions, Sources of investment information | 3 |
| 8. | Introduction to Primary and secondary market | 1 |
| 9. | Introduction to various investment alternatives: Equities, Mutual Funds, Bank FDs, Post office schemes | 4 |
| 10. | Investments in Gold, Sovereign Gold Bond, Real estate | 3 |
| 11. | Investments in New Pension Scheme (NPS), Public Provident Fund (PPF) and National Savings Scheme (NSC) | 4 |
| 12. | Systematic Investment Plans and Unit Linked Insurance Plans | 4 |
| **Total Hours** | | **30** |



## Course Outcomes:

- Understand of the basics of Personal Financial planning.
- Understand of the fundamentals of Investments.
- Comparison of investments alternatives and evaluation of the risk return tradeoff
- Understand long term investment products

FACULTY OF MANAGEMENT STUDIES

Marwadi University

# Value Added Courses

## Statistical Package for Social Sciences

## Faculty of Management Studies
## Marwadi University Rajkot

# 1.3.2 – Syllabus of Certification Course

## Course Details

This course **guides students through the fundamentals of using IBM SPSS Statistics for typical data analysis process**.

## Course Objectives

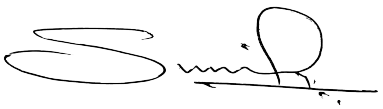
Students will learn the basics of reading data, data definition, data modification, and data analysis and presentation of analytical results.

## Course Content:

| Unit | Syllabus | No. of Hours |
|---|---|---|
| 1 | Introduction to SPSS interface, Data view Vs Variable view, Measurement scales (nominal, ordinal, scale), Entering data (by variable and by case/record), importing data (from excel/csv), Editing data (inserting a new variable or case, copy-pasting data) | 10 |
| 2 | Graphs and Charts<br>Introduction to Chart Builder, Bar graphs, Line graphs, Pie charts, Box plots, Histograms, Scatterplots, editing the charts (adding title, changing font, changing axis values etc.), printing the output. | 10 |
| 3 | Descriptive Statistics<br>Frequencies, Visual display of frequencies (bar chart, histogram), Measures of Central Tendency, Measures of Variability, Skewness, Kurtosis. | 10 |

## Course Outcomes:

- Apply software knowledge to manage data and perform visual and descriptive analyses



Marwadi University

# DEPARTMENT OF MICROBIOLOGY

## POSTGRADUATE PROGRAM- MSc. Microbiology

## Syllabus of value-added courses imparting transferable and life skills offered in last five years (2017-22)

Head,
Department of Microbiology,
Marwadi University, Rajkot

Marwadi University

**Syllabus for Faculty of Science**

**Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Subject Code: MTCP4429**

**Subject Name: Mental Toughness Certification Program**

**(Semester I)**

**Branch: Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Objective:** To give insights on advanced concepts of mental toughness which will help students to gain knowledge about different advanced mental toughness activities.

**Credits Earned:** 0 Credit

**Course Outcomes:** After completion of this course, student will be able to:

- This course will help students to improve their mental toughness by working on the 4 pillars of mental toughness (i.e. Cognitive abilities - Control over emotions - Commitment - Confidence) and which can help students to improve their academic performance and career planning.

**Pre-requisite of course:** NA.

**Teaching and Examination Scheme**

| Teaching Scheme (Hours) | | | Credits | Theory Marks | | | Tutorial/ Practical Marks | | Total Marks |
|---|---|---|---|---|---|---|---|---|---|
| Theory | Tutorial | Practical | | ESE (E) | Mid Sem (M) | Internal (I) | Viva (V) | Term work (TW) | |
| 30 | 0 | 0 | 0 | 00 | 00 | 00 | 00 | 00 | 00 |

Head,
Department of Microbiology,
Marwadi University, Rajkot

Marwadi University

**Syllabus for Faculty of Science**

**Physics / Chemistry/ Biotechnology/ Microbiology/ PGDMLT / Mathematics**

**Contents:**

| Unit | Topics | Contact Hours |
|---|---|---|
| 1 | **Orientation**<br>Course outline, discussion on the importance of mental toughness, and brief about4 C's of mental toughness. | 2 |
| 2 | **Power of Cognitive Skills**<br>Introduction to different practical cognitive skills exercises Concentration – Understanding Power of Concentration, Research on Concentration, Concept of Flow state of Mind, concentration exercises – Attention Span, Concentration Grid, Watch the Watch, Mind Body Coordination, Breathing Exercise, SH Music.<br>Memory – Introduction to Memory, Science behind Memory (Research on Memory & its mechanism, Spaced Repetition Technique. Memory Exercises – Working Memory, practicing memory with the help of software.<br>Executive Functioning – Introduction to Executive Functioning, Importance of executive functioning, exercise to develop executive functioning. | 7 |
| 3 | **Stay Committed towards the purpose of your life**<br>Understanding Commitment, importance of commitment in the life of students, Research on how commitment helps.<br>S.W.O.T analysis – Understanding the concept of S.W.O.T analysis through activity.<br>GOAL Setting – S.M.A.R.T Goals, Short Term – Medium Term – Long Terms Goals. Goal Setting Activities - Wheel of Fortune, 4 Step Goal Setting Process.<br>Visualizations – Power of Visualization, Research studies on Visualization, Visualization Activity, Vision Board, Time Management – Importance of Time Management, 4 Steps Activity to Manage Time.<br>Understanding the concept of IKIGAI & KAIZEN. | 8 |
| 4 | **Control your emotions for Wellness**<br>Importance of Thoughts, Research study by Dr. Emoto., Power of Positivity, Concept of Mind, Conscious & Sub conscious mind Showcase different concepts & activities (Make Someone smile, Attitude of Gratitude, Situational Controls, Convert Negative into positives, Types of thoughts, Anger & Fear Management, Pranayama, Guided Meditation) which will help students to have control over emotions. | 8 |

| | | |
|---|---|---|
| 5 | **Self-Belief – Unleash the power within you**<br>Importance of Self Belief, Showcase different concepts & activities (Belief in Yourself & Confidence Building Tips to enhance confidence in students. | 4 |
| 6 | **Evaluation & Feedback:**<br>Evaluation of Course Understanding and recording feedback of students on completion of the course. | 1 |
| | **Total Hours** | **30** |

**References:**


- Developing Mental Toughness: Improving Performance, Wellbeing and Positive Behaviour in Others. Peter Clough, Doug Strycharczyk. Kogan Page Publishers, 2012. ISBN: 0749463783, 9780749463786.


**Suggested Theory distribution:**

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

| Distribution of Theory for course delivery and evaluation | | | | | |
|---|---|---|---|---|---|
| Remember | Understand | Apply | Analyse | Evaluate | Create |
| 20% | 20% | 35% | 10% | 10% | 5% |

**Instructional Method:**

a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, case studies etc.

b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

c. Students will use supplementary resources such as online videos

Head,
Department of Microbiology,
Marwadi University, Rajkot

coursera | Marwadi University

# Interview Research and Preparation

Sponsored by Marwadi Integrated Learning & Analysis Programme - MILAP

Offered by

UNIVERSITY OF MARYLAND

## About this Course

This course, the first in the "Interviewing and Resume Writing in English" specialization, guides you to discover the interests, talents and competencies that you can use to find and do work that leverages your strengths, passions and who you are as a person, so you can start doing work that matters to you and to the world. Whether you already have a career and are looking to move forward, whether you're looking to change careers, whether you're starting out in the world of work, whether you're coming back into the world of work after some time away – this course will help you see your path more clearly and will teach you how to communicate your value to an employer in a way that he or she can immediately recognize.

After completing this course, you will be able to 1) use your individual cognitive, social and emotional traits, together with areas of interest, to discover how to find the future jobs that can give you the greatest satisfaction; 2) identify transferable skills of greatest value to the employers who have the jobs you're interested in; 3) apply a simple strategy for presenting your skills to an employer in an effective and convincing fashion.

**Flexible deadlines**
Reset deadlines in accordance to your schedule.

**Shareable Certificate**
Earn a certificate upon completion issued by the institution that created the course.

**100% online**
Start instantly and learn at your own schedule.

**Intermediate Level**

**Approx. 20 hours to complete**

## Syllabus - What you will learn from this course

WEEK 1

1 hour to complete

### Welcome

This module introduces you to the specialization, giving you background and an overview of what you will learn in the weeks ahead.

1 video , 1 reading, 1 quiz **See All**

WEEK 2

7 hours to complete

### Researching Yourself

In this module, you'll begin developing your individual strategy to guide your job search, from picking a career direction to measuring effectiveness of your search.

7 videos , 5 readings, 6 quizzes **See All**

coursera | Marwadi University

WEEK 3

4 hours to complete

## Discovering Your Transferable Skills

In this module, you'll learn how to develop and apply an important strategy used in the English-language world to communicate core competencies to a prospective employer.

7 videos See All

WEEK 4

5 hours to complete

## Improving Your English Pronunciation

In this module, you'll learn how to control your use of intonation and rhythm in spoken English. These dynamics do more to improve your comprehensibility than any other feature of the spoken language.

5 videos , 3 readings, 7 quizzes See All

WEEK 5

3 hours to complete

## Becoming a More Efficient Language Learner

In this module, you'll learn strategies you can adopt to becoming a more fluent and more confident speaker of English.

8 videos , 5 readings, 2 quizzes See All

Head,
Department of Microbiology,
Marwadi University, Rajkot

coursera | Marwadi University

# Writing Winning Resumes and Cover Letters

Sponsored by Marwadi Integrated Learning & Analysis Programme - MILAP

Offered by

UNIVERSITY OF MARYLAND

## About this Course

How can you bring your resume to the top of the pile? How can you present yourself to prospective employers using the language they already speak inside their organization? This course will give you answers to those questions. You will learn how to convert a boring resume into a dynamic asset statement that conveys your talents in the language that an employer understands.

After completing this course, you will be able to:

1. Identify the real purpose of a resume.
2. Identify relevant competencies for a position.
3. Adapt your resumes to Applicant Tracking Systems (resume screening software).
4. Write powerful and convincing accomplishment statements using your accomplishments inventory to strategically assemble the most relevant evidence of competency for a specific position.
5. Use the resume skills tier method to strengthen your resume.
6. Write summary sections and objective statements aligned to a job position.
7. Take advantage of web resources to find power language for your resume.
8. Produce a strong resume in a format that is suitable both to your background and the position you're interested in.
9. Produce strong cover letters that use A.I.D.A. to help you achieve your career goals.
10. Produce effective follow-up letters that help you stand out from the competition.

**Flexible deadlines**
Reset deadlines in accordance to your schedule.

**Shareable Certificate**
Earn a certificate upon completion issued by the institution that created the course.

**100% online**
Start instantly and learn at your own schedule.

**Intermediate Level**

**Approx. 13 hours to complete**

**English**
Subtitles: Arabic, French, Portuguese (European), Italian, Vietnamese, German, Russian, English, Spanish, Persian

## Syllabus - What you will learn from this course

WEEK 1

**4 hours to complete**

### Preparing to Write

In this module, you'll learn to how position your resume to a specific marketing purpose, how to align your resume with the specific needs of the hiring organization, and how to ensure your resume ranks high on the relevancy scales used by top-notch organizations today.

6 videos , 4 readings, 3 quizzes **See All**

Sangha

coursera | Marwadi University

WEEK 2

4 hours to complete

## Writing a Winning Resume

In this module, you will learn how to construct powerful accomplishment statements, how to write effective summary sections and job objectives, how to select action words to present you as a doer and achiever, and how to use two web resources that can help you find powerful language for your resume.

6 videos , 5 readings, 3 quizzes See All

WEEK 3

3 hours to complete

## Choosing a Resume Format

In this module, you'll learn how to select the best resume format to support your experience and career goals. You'll learn how to prepare resumes for electronic submission and for submission to OCR engines. You learn the benefits of using an internal resume in your annual review process, and you'll learn what never to put on a resume.

6 videos , 2 readings, 3 quizzes See All

WEEK 4

3 hours to complete

## Writing a Winning Cover Letter

In this module, you'll how to prepare an effective cover letter and how to use marketing strategies to get you cover letter to work for you. You'll learn how to use similar strategies to write a follow-up letter after interviews.

4 videos , 1 reading, 3 quizzes See All

**Head,**
Department of Microbiology,
Marwadi University, Rajkot