

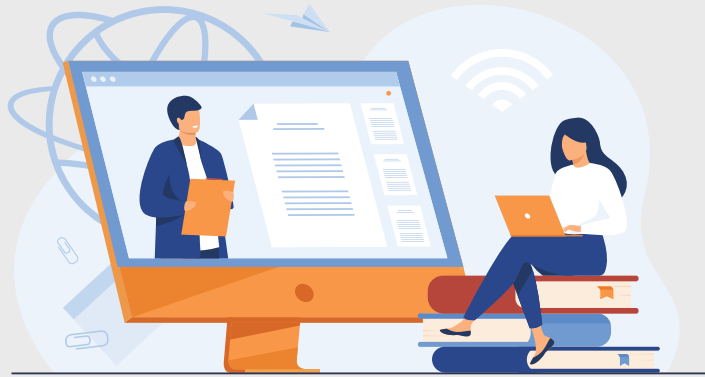


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**BASIC PACKAGE**

COURSE LISTING

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## 1 The Basics of Marketing

### Overview/Description

Successful marketing is about optimizing the value you offer customers, as well as the value you get from them in return. Understanding its function will help you better understand the relationship that companies need to build with their customers. Knowing how to effectively advertise and use each distribution channel will help you stand out from the competition. In this course, you'll learn about the key functions of modern marketing and its link to overall corporate strategy. You'll also consider the role of advertising and distribution in digital marketing. Finally, you'll learn about the foundations for creating a marketing strategy and making the most of each advertisement in your distribution model.

### Lesson Objectives

- Match business styles to the underlying principles that guide decision making
- Identify the key objectives of the marketing function in organizations
- Identify the key characteristics of online marketing
- Recognize descriptions of market segmentation and targeting
- Match positioning strategies to their descriptions
- Identify elements of the marketing mix
- Identify elements of the modern marketing mix
- Recognize characteristics of modern marketing

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Anyone who wants to develop or refine their marketing skills.	0.5	Everyone	None

## 2 Professional in Human Resources: Introduction to PHR® Exam

### Overview/Description

In this course, you'll discover the qualifications for HR certification and who is eligible. You'll also learn about the contents of the PHR® Exam by HRCI® and how the test is constructed. In addition, you'll try the HR skill assessment tool to determine skill level and develop a personalized study plan.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the PHR exam
- Describe BoK and its relevance to the HR profession
- Describe the PHR exam eligibility and passing requirements
- Identify and assess your level of HR knowledge to create a study plan that will guide you in allocating the appropriate amount of study time
- Identify how to benefit from your study plan

Expected Duration (hours)	Expertise Level
0.6	Everyone

## 3 Professional in Human Resources: Employee Relations

### Overview/Description

Negative behaviors have negative consequences. HR provides managers and employees with the documents to establish organizational policies and guidelines to ensure consistent communication. When violations occur, they should be dealt with fairly across employees groups, following a documented process. Should the need arise for employees to exit the organization, regardless of the reason, courtesy and confidentiality are extended. In this course, we'll explore a series of infractions that can escalate from minor to grave and the various actions that are within the realm of HR.

### Lesson Objectives

- Discover the key concepts covered in this course
- Differentiate between employer and employee rights
- Recall the federal laws and regulations related to the Civil Rights Acts
- Recall the federal laws and regulations related to equal rights in employee relations
- Recall the federal laws and regulations related to employment transitions
- Recall the federal laws and regulations related to federal employee relations activities
- Distinguish between the types of commitments that form the employment relationship
- Identify the types of documentation employers use to communicate decisions, actions, and activities and provide clear boundaries
- Define the types of workplace behavior issues
- Describe the steps in resolving a workplace conflict
- Identify the steps to handle internal investigations
- Differentiate between positive and negative approaches to discipline
- Define the standard processes for all types of separations
- Identify the considerations for layoff conditions
- Describe the types of tort claims impacting the employment relationship
- Define the types of employment liability claims
- Describe the company-sponsored methods of ADR
- Describe the activities in the ligation process

Expected Duration (hours)	Expertise Level
2.1	Intermediate

## 4 Professional in Human Resources: Employment Legislation

### Overview/Description

In this course, you'll explore and interpret the US laws and regulations that impact the HR Body of Knowledge. In addition, you'll learn the process of how the US constructs and then passes laws. Specifically, you'll explore labor laws and executive orders, as well as civil rights, employment, privacy and consumer protection, and federal government and agency legislation. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the US law-making process and its hierarchy
- Recognize the foundation of US federal employment legislation prior to 1990
- Recognize the foundation of US federal employment legislation after 1990
- Recall the foundational key legislation that impacts employment
- Recall the key legislation that impacts employment
- Recognize how US employment legislation protects employment privacy
- Recognize which legislation applies to federal contractors and agencies
- Recall the key executive orders
- Recognize important legislation that is used frequently in the workplace



Expected Duration (hours)	Expertise Level
2.1	Beginner

## 5 Professional in Human Resources: Business Environment

### Overview/Description

Many great ideas turn into successful businesses, but first the idea must be developed. Discover the considerations that are made regarding the external environment in order to create thriving businesses. In addition, discover the tools used to measure effectiveness. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Recall the federal laws and regulations related to business organizing activities prior to 1960
- Recall the federal laws and regulations related to managing the business environment
- Describe the element to establish the business strategy
- Identify the different types of legal structures of how a business can organize
- Describe the effects of competition on the business
- Describe the external business environment
- Define the key business elements that impact the environment
- List the tools used to measure the business environment

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 6 Professional in Human Resources: Business Planning

### Overview/Description

Not many HR professionals have the opportunity to build a business from the ground up or restructure the company for efficiencies. Whether or not that challenge comes along, it is beneficial to have the knowledge of designing and reshaping the organization to meet business goals and objectives. Explore the various options and how to optimize the different characteristics that make each business unique. Discover the choices available to constructing dynamic organizations to yield top results. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the US law-making process and its hierarchy
- Recognize the foundation of US federal employment legislation prior to 1990
- Recognize the foundation of US federal employment legislation after 1990
- Recall the foundational key legislation that impacts employment
- Recall the key legislation that impacts employment
- Recognize how US employment legislation protects employment privacy
- Recognize which legislation applies to federal contractors and agencies
- Recall the key executive orders
- Recognize important legislation that is used frequently in the workplace

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 7 Professional in Human Resources: HR Organization

### Overview/Description

What is human resources – people or function? In defining this nucleus, you'll explore both – what it means to the company, its function, roles, responsibilities, and essential measurements. You'll learn how HR can be effective for the organization while providing value to its stakeholders. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the functions of the HR Department
- Identify the role of the HR professional
- Define corporate governance and HR's role in the process
- Differentiate between corporate and personal ethics
- Identify the role of HR for CSR and its impact on the organization
- Recommend and implement best practices to mitigate internal and external employment threats
- Define recordkeeping requirements for various HR functions
- Define the HR records retention process
- Describe the metrics HR uses to validate its overall effectiveness
- List measures to validate business impact and provide useful information to management
- List metrics used to measure HR's tactical accountability

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 8 Professional in Human Resources: HR Tools and Processes

### Overview/Description

Every profession has its bag of tricks, and HR is no different – HR borrows from everyone else! In this course, you'll learn about some of the essential tools and processes to help become a trusted partner and adviser. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- List the types of partnerships available to HR organizations
- List the types of solutions available to HR organizations
- List the types of technologies that support effective HR data processing and analysis
- Describe the reporting spectrum and how it provides value
- Describe the different types of research techniques
- Identify the methods and tools for data analysis
- Describe the process to contract with vendors to support organizational needs
- Describe the project management process and tools
- Describe the change management process and tools

Expected Duration (hours)	Expertise Level
1.2	Beginner



## 9 Professional in Human Resources: Talent Planning

### Overview/Description

As the economic pendulum swings, top talent comes and goes and the replacement effort starts over, or can even shift. In this course, you'll learn how HR can aid in assessing the workforce and helping to find top talent with the right tools in place. You'll examine talent planning, forecasting, flexible staffing, structural workforce change, business restructuring, and transition techniques. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the talent planning process
- Identify techniques for HR forecasting
- Describe the process for determining staffing requirements
- Identify sources for the HR talent pool
- Describe the impact of flexible staffing on the workplace
- Describe how structural workforce changes impact the workplace
- Recognize how business restructuring contributes to the talent planning process
- Identify techniques used to successfully transition employees

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 10 Professional in Human Resources: Talent Sourcing

### Overview/Description

Great branding isn't just for marketing. Employees are consumers too, and that same marketing power should also be directed toward the employer brand to help create great candidate experiences and attract the best and brightest talent. Recognizing that the US is in the midst of a talent shortage, HR is forced to become more creative and prescriptive in sourcing efforts. In this course, you'll learn how to create a sustainable talent pipeline. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the talent acquisition function
- Describe how an employer creates its brand
- Describe the elements of an employee value proposition
- Distinguish between sourcing and recruiting
- List resources for potential candidates
- Describe how to create a positive candidate experience
- Recall the federal laws and regulations related to discrimination
- Identify the types of employment discrimination
- Identify the types of workplace harassment
- Identify the types of cases handled by the EEOC
- Recognize the reason for affirmative action and the requirements

Expected Duration (hours)	Expertise Level
0.8	Intermediate



## 11 Professional in Human Resources: Recruiting

### Overview/Description

Short-term hires are costly, so HR wants to yield the highest ROI by ensuring a good fit for both employer and employee. In this course, you'll explore the life cycle of landing the right candidates. You'll also learn why it's important to gain a solid foundation of the laws and current trends, which will all help you become more effective at recruiting. This course can be used in preparation for the HR Certification Institute® (HRCI®) PHR® certification exam.

### Lesson Objectives

- Discover the key concepts covered in this course
- Identify how recruiting fits into the talent acquisition process
- Recall the federal laws and regulations related to recruiting activities prior to 1990
- Recall the federal laws and regulations related to recruiting activities after 1990
- Identify ways to effectively use social media in recruiting
- Describe how applicant tracking improves the recruitment process
- Describe the steps in the selection process
- List the tools that aid in screening applicants
- Identify the types of assessments used to evaluate candidates
- Identify the different types of interviews
- Identify hiring areas that may have legal implications
- Distinguish between verbal and written employment offers
- Define the types of contingent assessments
- Describe the activities that occur pre-employment
- Distinguish between orientation and onboarding
- Identify the metrics used to assess talent acquisition effectiveness

Expected Duration (hours)	Expertise Level
1.8	Expert

## 12 Professional in Human Resources: Organizational Development

### Overview/Description

To be successful at developing people, organizations need a foundation. In this course, you'll explore the foundational concepts that exist to help employees peacefully interact, coexist, and thrive with each other.

### Lesson Objectives

- Discover the key concepts covered in this course
- Define the characteristics and importance of organizational development
- List the methods used in organizational development
- List examples of strategic interventions
- Identify the strategies used to improve work and job structures to gain efficiencies
- Identify the approaches used to improve production quality and gain efficiencies
- Describe the activities that help employees understand each other's behaviors
- Describe the roles in career development
- Describe the types of programs used for employee development
- Identify the methods to motivate employees

Expected Duration (hours)	Expertise Level
1.2	Expert



## 13 Professional in Human Resources: Performance Management

### Overview/Description

Performance management is one of the most difficult organizational processes. In this course, you'll discover why, and learn how time has transformed some of the processes with negative intent. In addition, you'll explore HR's role in helping managers and employees be successful.

### Lesson Objectives

- Discover the key concepts covered in this course
- Define the steps in the performance appraisal process
- Describe the process for creating goals
- Distinguish between evaluation and appraisal
- Describe the different types of performance appraisal methods
- Identify common errors made in the performance evaluation process
- Use PIPs effectively
- Distinguish between coaching and mentoring

Expected Duration (hours)	Expertise Level
0.9	Intermediate

## 14 Professional in Human Resources: Learning

### Overview/Description

HR certification is the preparation for being a lifelong learner, and is the start of many more trainings HR will take - and perhaps give. Regardless of which training, understanding the mechanics and how people will receive them are equally important. In this course, you'll explore the different methodologies, embrace the process, and understand HR's role in helping to develop people.

### Lesson Objectives

- Discover the key concepts covered in this course
- Distinguish between training and learning
- Recall the federal laws and regulations related to learning activities
- Identify how behaviors are acquired
- Recall the importance of adult learning theories
- Identify the strategies used to achieve training results
- Identify the different types of instructional design models
- Define the different types of training analysis
- Identify the methods to acquire training
- Identify HR's role during the implementation phase
- Define the requirements for training trainers
- Identify techniques to assess training program effectiveness

Expected Duration (hours)	Expertise Level
1.2	Intermediate

## 15 Professional in Human Resources: Job Architecture

### Overview/Description

Why is there always so much confusion on how much to pay for a job when there is a very well defined process? Let's uncover this well-kept secret and why there is confusion. In this course, you'll also learn how to squash all the noise and better respond to inquiries on how salaries for jobs are derived.

### Lesson Objectives

- Discover the key concepts covered in this course
- Define the elements of a total rewards strategy
- Define the types of total rewards
- Describe the key components of the job architecture framework
- Define the value of the job structure process
- Identify the documentation derived from the job analysis process
- Distinguish between exempt and nonexempt employees
- List the methods of job evaluation
- Describe the steps in compensation benchmarking
- Define the steps for building a pay structure
- Describe how pay grades and ranges are defined
- Describe the factors in determining an employee's pay
- Describe the range for pay transparency
- Describe the benefits of a total reward statement

Expected Duration (hours)	Expertise Level
1.5	Expert

## 16 Professional in Human Resources: Compensation

### Overview/Description

It's not all about the money...or is it? In this course, you'll explore the different types of compensation and how to determine how much an individual is paid and by what type of compensation based on the type of work being done. Though HR is not responsible for payroll, they are usually the first line of response, so understanding how payroll works and verifying calculations will be important.

### Lesson Objectives

- Discover the key concepts covered in this course
- Distinguish between direct and indirect compensation programs
- Recall the foundational federal laws and regulations related to foundational compensation activities
- Recall the federal laws and regulations related to compensation activities prior to 1995
- Recall the federal laws and regulations related to compensation activities after 1995
- Identify the types of base payment methods
- Distinguish the types of wage payment methods
- Identify the mandatory differential payment methods
- Identify the types of variable compensation programs
- Identify the types of incentive programs paid for based on combined efforts
- Define the types of payment variations
- Describe the elements of executive compensation
- Recognize the close interaction between HR and payroll processes
- Troubleshoot payroll issues to address employee concerns
- Describe the process for calculating multiple straight-time rates of pay
- Calculate overtime on a piece-rate plan
- Recognize when the company needs to contribute to payments for tipped employees

Expected Duration (hours)	Expertise Level
1.9	Intermediate



## 17 Professional in Human Resources: Benefits

### Overview/Description

Top of mind for most recruits is “What benefits are offered?” This is usually generalized to mean “group healthcare,” but there are so many more options to explore. In this course, you’ll learn about which benefits are mandatory, optional, and not required to be offered, and which rules must be followed. It’s a relatively straightforward topic, but heavily backed with legislation that can easily jeopardize an organization’s entire plan.

### Lesson Objectives

- Discover the key concepts covered in this course
- Identify the strategies for a successful benefits program
- Recall the federal laws and regulations related to healthcare administration of benefits activities
- Recall the federal laws and regulations related to impacts on benefits activities
- Recall the federal laws and regulations related to protection and privacy of benefits activities
- Recall the federal laws and regulations related to the financial administration of benefits activities
- Recall federally compliant tax benefit programs
- Recall federally compliant benefit programs
- Describe the tax advantaged benefit programs
- Recognize the requirements that must be complied with when an employer offers group healthcare
- Identify the different types of healthcare funding
- Identify the typical benefits offered in addition to healthcare
- List the employee services benefits
- Distinguish between qualified and nonqualified retirement plans
- Identify the required communications to support tax sheltered plans

Expected Duration (hours)	Expertise Level
2.0	Intermediate

## 18 Professional in Human Resources: Organizational Relations

### Overview/Description

Each week, more time is spent in the workplace than any other location, and employees therefore form relationships with the people they work with. It is incumbent upon HR to create an environment that is conducive to making that healthy for the employees while productive for the organization. Understanding human relations skills is not sufficient; the organization needs to embody that spirit as well. In this course, you’ll learn how to prepare the organization to be more receptive to building positive human relations.

### Lesson Objectives

- Discover the key concepts covered in this course
- Define human relations and how it impacts the workplace
- Define organizational culture
- Describe how culture is developed
- Identify the key diversity issues impacting organizations
- Describe the benefits of diversity and inclusion programs
- Identify techniques to encourage participative decision-making
- Define employee engagement and its impact on the workplace
- Identify the types of employee surveys
- List methods for effective employee communications

Expected Duration (hours)	Expertise Level
1.2	Expert

## 19 Professional in Human Resources: Organizational Risk

### Overview/Description

Not only is HR concerned about the wellbeing of employees, but it's also about security and access issues to property and data. In this course, you'll learn about the various types of organizational risks that keep HR on their toes, and you'll explore the risks and mitigation actions that HR can leverage.

### Lesson Objectives

- Discover the key concepts covered in this course
- Define the organizational risk framework
- Describe the types of HR audits
- Recall the federal laws and regulations related to safety and health activities
- Identify the key OSHA forms and when they are used
- Describe potential workplace safety and security risks
- Identify the types of business continuity risks
- Recall the federal laws and regulations related to health hazards
- Identify the process for communicating health hazards
- Describe the three types of EHH
- Describe the programs available to make the workplace healthier
- Distinguish the difference between handling employees with alcohol or drug abuse issues
- Identify the three components of the RTW program
- Recall the federal laws and regulations related to workplace privacy and protection activities before 1986
- Recall the federal laws and regulations related to workplace privacy and protection activities after 1986
- Describe potential workplace privacy and protection issues

Expected Duration (hours)	Expertise Level
2.3	Intermediate

## 20 Professional in Human Resources: Labor Relations

### Overview/Description

Whether a company has a union or not has nothing to do with HR or the company, but it's important to know how to manage effectively with a union. In this course, we'll explore processes when a union interacts with an organization and organizes a campaign, and how to effectively manage with a union contract in effect.

### Lesson Objectives

- Discover the key concepts covered in this course
- Describe the relevance of labor relations
- Recall the federal laws and regulations related to labor relations
- Recall the federal laws and regulations related to labor activities
- Define why unions exist
- Identify strategies employers can use to keep unions from soliciting employees
- Define the types of ULPs
- Define the union organizing strategy
- Identify the purpose of an NLRB hearing
- Define the different certification strategies
- List the collective bargaining subjects
- Define different contract negotiation strategies
- Define the types of union security clauses
- Describe the different types of labor demonstrations
- Define the types of ADR for labor disputes



Expected Duration (hours)	Expertise Level
1.7	Intermediate

## 21 The Reality of Being a First-time Manager

### Overview/Description

The first-time manager often doesn't realize how much their new role differs from that of an individual contributor. They may have misconceptions about what being a new boss entails, and be surprised to learn that the skills and methods required for success as an individual contributor and those needed for success as a new manager are very different. This course describes some of the myths about managing people and their corresponding truths in order to clarify what a new leader really does. It also points to the typical demands and constraints of a manager's job. Finally, it describes strategies for dealing with common mistakes when managing for the first time.

### Lesson Objectives

- **Recognize the personal factors that impact a management position**
- **Describe organizational factors that will impact your new job as manager**
- **Recognize the typical demands that a manager must deal with**
- **Specify common constraints faced by managers**
- **Choose the best strategies for dealing with the mistake of taking on too much**
- **Identify strategies for overcoming the mistake of not asking for help**
- **Recognize strategies for helping you avoid projecting a lack of confidence**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Anyone who is exploring a career move into management, or who has been promoted or hired into a management role for the first time.	0.4	Everyone	None

## 22 Facing Challenges as a First-time Manager

### Overview/Description

High expectations are often placed on a new manager. Along with these expectations comes the pressure to prove you are capable of being the boss and managing people effectively. When managing for the first time, establishing credibility early and building new working relationships can go a long way in helping you succeed in adjusting to your new responsibilities. This course describes ways to manage former colleagues effectively and establish credibility as a first-time manager. You'll also learn how to balance conflicting expectations as a new leader.

### Lesson Objectives

- **Specify ways of establishing your credibility as a new manager**
- **Recognize how to communicate with your team as a first-time manager**
- **Recognize techniques for acknowledging the relationship change between you and your former coworkers**
- **Describe ways in which you can use your new managerial position to support your former coworkers**
- **Identify management guidelines that will help you respond to conflicting expectations in the workplace**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Anyone who is exploring a career move into management, or who has been promoted or hired into a management role for the first time	0.3	Everyone	None

## 23 Effectively Directing and Delegating as a Manager

### Overview/Description

Understanding the essential responsibilities you have when directing and delegating to others, and the practices you should employ in order to meet those responsibilities, will lead to you fulfilling your duties and realizing the potential of your entire team. This course provides information on the key proficiencies of managing people, such as setting direction and establishing clear objectives and goals for your direct reports. It discusses the importance of organizing, as well as communicating for clarity and direction. It also covers the best practices for planning delegation and the techniques you need to carry through with delegation. Finally, the course details the importance of monitoring delegated tasks to ensure employees are on the right track.

### Lesson Objectives

- **Sequence the steps in setting the direction and pace of work as a manager**
- **Identify organizing actions a manager should typically take**
- **Recognize aspects of communicating for clarity and direction when directing employees**
- **Identify essential elements of planning to delegate**
- **Recall strategies for delegating tasks**
- **Identify examples of ways to follow up after delegating tasks**
- **Use techniques to give direction and delegate to your employees**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
All individuals in a management role at any level, including supervisors, team leaders, professionals, department heads, directors, top management, and executives.	0.5	Everyone	None

## 24 Managing Employee Development

### Overview/Description

Smart companies have learned that supporting continuous learning and self-development among employees reaps dividends in productivity and employee retention rates. As a manager, you're responsible for developing people, which includes developing talent in your direct reports. In this course, you'll learn about the benefits of developing employees and assessing how their development needs can be addressed through organizational learning. You'll then learn how to prepare for and conduct a development meeting that includes the necessary development plan characteristics and support for your employees.

### Lesson Objectives

- **Recognize the benefits of developing employees**
- **Identify steps in assessing the development needs of your employees**
- **Recognize techniques for preparing for a development meeting**
- **Identify best practices for conducting a development meeting**
- **Recognize the characteristics of an effective development plan**
- **Select actions you can take to provide ongoing support to employees' development**
- **Use methods to effectively develop your employees**



Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
All individuals in a management role at any level, including supervisors, team leaders, professionals, departmental heads, directors, top management, and executives.	0.5	Everyone	None

## 25 Managing Multigenerational Employees

### Overview/Description

Many influences have shaped the lives and work experiences of various generations, namely the Baby Boomer, Gen X, Millennial (or Gen Y), and Gen Z generations. Because each generation has its own distinct attitudes, priorities, needs, and work habits, managers can get the best from a multigenerational workforce by using strategies that recognize the differences. In this course, you'll learn about the best practices and successful techniques for managing these multigenerational employees in the workplace. You'll also explore methods for overcoming multigeneration challenges such as ageism and stereotypes to ensure that all employees feel respected and can make a positive contribution to your organization.

### Lesson Objectives

- **Match the generations with key events that helped shape their attitudes and behaviors**
- **Match management strategies to Baby Boomer employees' needs and expectations**
- **Match management strategies to Generation X employees' needs and expectations**
- **Match management strategies to Millennial employees' needs and expectations**
- **Recognize the benefits of managing Millennials effectively**
- **Match management strategies to Generation Z employees' needs and expectations**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Managers, team leaders, business professionals, and individuals who want to develop or refine their skills for managing different workforce generations.	0.4	Everyone	None

## 26 Establishing Effective Virtual Teams

### Overview/Description

Building and managing teams is enough of a challenge when everyone is in the same location. Collaboration when working on a team that's virtual requires even more commitment. In this course, you'll learn about teamwork and team leadership when working on a virtual team. You'll cover remote management and tactics for communication, assessment, and meetings for virtual teams.

### Lesson Objectives

- **Describe the main areas of concern for a remote manager**
- **Recall guidelines for establishing relationships with team members**
- **List communication areas in which virtual managers need to establish team standards**
- **Categorize communication tools as synchronous or asynchronous**
- **Recall strategies for supporting and encouraging virtual team members**
- **Recognize guidelines for managing performance among virtual team members**
- **Recall guidelines for managing remote team meetings**
- **Recognize strategies for establishing and managing a virtual team that can work effectively together**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Managers who are leading teams made up of offsite employees or a combination of onsite and offsite employees	0.5	Intermediate	None



## 27 Facing Virtual Team Challenges

### Overview/Description

Virtual teams can face the same difficulties as other teams, but also have unique challenges. In this course, you'll learn how to handle challenges facing your team, and how to evaluate your own style.

### Lesson Objectives

- **Recall tactics for ensuring equal management of onsite and offsite team members**
- **List tactics for managing teamwork spread across multiple time zones**
- **Identify strategies for ensuring respectful treatment of all members of a diverse team**
- **Name approaches for avoiding and handling conflict among remote team members**
- **Apply strategies for overcoming communication difficulties faced by a geographically diverse team**
- **Recognize the importance of reflecting on your management approach**
- **Recognize strategies for working around typical challenges facing remote or blended teams**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Managers who are leading teams made up of offsite employees or a combination of onsite and offsite employees	0.4	Intermediate	None

## 28 Women in Leadership: Mastering Key Leadership Competencies

### Overview/Description

All leaders need to possess certain competencies that help them to be good leaders. Women leaders still face challenges in the workplace, when it comes to being viewed as equally competent to men. By developing key leadership competencies, women can make the best use of both the traditionally feminine qualities as well as those that are traditionally seen as masculine. In this course, you will learn how to build confidence through competence, develop your leadership presence, communicate like a leader, demonstrate your emotional intelligence, and network and connect with other women leaders.

### Lesson Objectives

- **Discover the key concepts covered in this course**
- **Recognize what constitutes the kind of competency that builds confidence**
- **Identify statements that describe the key elements of leadership presence**
- **Identify behaviors that enhance effective leadership communication**
- **Recognize behaviors that demonstrate emotional intelligence**
- **Identify best practices for developing a network that works for women**

Expected Duration (hours)	Expertise Level
0.5	Everyone



## 29 Building the Foundation for an Effective Team

### Overview/Description

The way in which teams are built is an important factor in determining a project's success. Effective team management requires strong team leadership that clearly outlines your goals and standards of behavior. In this course, you'll learn about the five stages of team development and strategies for selecting high-performing team members most suited for collaboration. You'll also learn some foundations for managing teams successfully, including how to set team goals, assign roles to individuals working on a team, and define specific guidelines for how team members should behave to minimize conflict and optimize teamwork.

### Lesson Objectives

- **List the stages of team development**
- **Match personal qualities that team members should have with indicators of their presence**
- **Recognize the rewards derived from a collaborative approach to establishing team goals**
- **Sequence the steps that a given team should take to establish team goals**
- **Sequence examples of the steps for assigning team members to appropriate roles**
- **Recognize examples of effectively written guidelines for team conduct**
- **Identify examples of each category of team conduct guidelines**
- **Recognize strategies for forming a team and establishing its goals, roles, and guidelines**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
All levels of employees that lead and manage teams; anyone wishing to develop and refine their leadership skills in a team environment	0.5	Everyone	None

## 30 Developing a Successful Team

### Overview/Description

Anyone who is responsible for managing teams will tell you that team dynamics make a huge difference in the working environment. Developing effective project teams is one of the primary aspects of team leadership. In this course, you'll learn how to develop a team culture early on by establishing team member competencies and working to improve team dynamics. You'll also learn about methods used to encourage team participation and motivation and increase teamwork and commitment. Finally, you'll learn about the importance of assessing and improving team performance.

### Lesson Objectives

- **Sequence the steps used to perform a training gap analysis**
- **Recall factors that directly influence team dynamics**
- **Match indicators of poor team dynamics with team-building activities that could be used to correct them**
- **Match strategies that encourage team participation with examples**
- **Recognize the effective use of rewards and recognition**
- **Recognize strategies for gaining commitment from team members in a given scenario**
- **Recall the steps in the GROW method for improving team performance**
- **Use strategies for improving a team's dynamics, strength, and performance**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
All levels of employees that lead and manage teams; anyone wishing to develop and refine their leadership skills in a team environment	0.5	Everyone	None

## 31 Interacting with Customers

### Overview/Description

Effectively communicating with customers increases customer satisfaction and projects service excellence. This course provides valuable advice on how to improve client service (CS) by building customer relationships with better customer conversations. It covers how to improve conversations with customers by speaking effectively, using vocal cues, listening actively, and using paraphrasing to convey your understanding of the customer's needs.

### Lesson Objectives

- **Classify examples of communication as formal or informal**
- **Identify methods to overcome barriers to effective communication**
- **Recognize the skills required for effective speaking**
- **Match positive and negative vocal cues with examples**
- **Identify the factors that contribute to effective listening**
- **Match the mirroring behaviors involved in active listening to their characteristics**
- **Identify the benefits of using paraphrasing techniques**
- **Use verbal communication skills effectively in a customer support environment**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Individuals who want to develop or refresh their customer service skills.	0.5	Everyone	None

## 32 Communicating Effectively with Customers

### Overview/Description

Effectively communicating with customers is essential to the success of any customer-oriented business. Adapting to the different communication styles and emotions of customers will help you build customer relationships through better customer conversations. Improving conversations with customers enables an efficient, high quality client service (CS). This course explains how to adapt to the different communication types and identify the common emotions that customers experience when contacting a support center. It also explains how to adapt your writing skills to communicate through e-mail and to document incidents.

### Lesson Objectives

- **Distinguish between techniques for meeting a customer's psychological and business needs**
- **Match techniques for understanding customers' emotions with their descriptions**
- **Identify the strategies used to build rapport with customers**
- **Identify the strategies for adapting to a customer's competency level**
- **Recognize how to relate to the different communication styles**
- **Sequence the stages of the call-flow process**
- **Recognize best practices for writing professional e-mails and reports**
- **Apply effective communication skills when dealing with customers**



Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Individuals who want to develop or refresh their customer service skills.	0.5	Everyone	None

## 33 Controlling Conflict, Stress, and Time in a Customer Service Environment

### Overview/Description

Working at a customer support center or help desk environment can be challenging. Customers can sometimes be demanding and unreasonable, leading to conflict and stress. The customer service representative (CSR) who aims for service excellence can improve customer relationships by understanding the emotional needs of each customer and adapting to how they communicate. In this course, you'll learn how to identify and resolve conflict, negotiate with customers, and develop strategies to better manage time and stress, and you'll explore how a positive approach and attitude can benefit client service (CS).

### Lesson Objectives

- **Recognize the warning signs of potential conflict**
- **Identify ways to reduce conflict with customers**
- **Identify skills for negotiating effectively with customers**
- **Recognize strategies of assertive communication**
- **Recognize ways of demonstrating confidence when speaking to a customer**
- **Identify strategies for reducing stress**
- **Identify strategies to manage time**
- **Recognize strategies to manage conflict, stress, and time effectively**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Individuals who want to develop or refresh their customer service skills.	0.5	Everyone	None

## 34 Dealing with Customer Service Incidents and Complaints

### Overview/Description

Failing to realize the importance of customer service and effective complaint handling leads to increasingly dissatisfied customers. Organizations must be able to address the needs of customers in an effective manner to succeed. This course is intended to show the proper procedures and processes needed to provide an efficient client service (CS). It covers how to improve customer relationships to reduce conflict and enable service excellence. You'll also learn how to provide accurate documentation for incident reporting.

### Lesson Objectives

- **Recognize the typical steps in the process of dealing with a customer**
- **Recognize the four actions in documenting an incident**
- **Sequence the steps in the incident management process**
- **Match incident measurement metrics with examples of what they measure**
- **Identify techniques for dealing with abusive or irate customers**
- **Match customer issues with the appropriate escalation approach**
- **Identify the elements that need to be included in customer feedback**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Individuals who want to develop or refresh their customer service skills.	0.5	Everyone	None

## 35 Polishing Your Skills for Excellent Customer Service

### Overview/Description

As a customer service representative (CSR), creating a support culture that focuses on your customers' needs is key. In this course, you'll learn how to enhance your interactions with customers to project service excellence. You'll explore how to establish effective customer relationships that involve customers in problem solving. Finally, you'll discover how to improve communication for a better client service (CS) in a cross-cultural customer support center or help desk environment.

### Lesson Objectives

- **Recognize examples of customer support provided with an excellent service attitude**
- **Identify personal methods of projecting an excellent service attitude**
- **Recognize examples of techniques for establishing effective customer relationships**
- **Recognize the steps to encourage customer involvement in problem solving**
- **Match the methods used for effective cross-cultural communication to examples**
- **Recognize how language barriers can impact your communications with customers**

Target Audience	Expected Duration (hours)	Expertise Level	Prerequisites
Individuals who want to develop or refresh their customer service skills.	0.4	Everyone	None



**Click course title for link to description page.**

1.	Project Selection and Initiation
2.	Scope, Schedule and Cost Planning
3.	Resource and Risk Planning
4.	Communication, Changes, and Documentation
5.	Controlling Project Work and Closing
6.	Planning and Controlling the Project Schedule
7.	Project Management Practical Exercises
8.	Quality and Procurement Planning
9.	Project Planning Documents
10.	Project Documents and Terminology
11.	IT Security for End Users: IT Security Fundamentals
12.	IT Security for End Users: Using Corporate Devices Securely
13.	IT Security for End Users: Secure Corporate Communications and Networking
14.	Excel Office 365 (Windows): Getting Started
15.	Excel Office 365 (Windows): Illustrating Documents
16.	Excel Office 365 (Windows): Inserting & Manipulating Data
17.	Excel Office 365 (Windows): Basic Formulas
18.	Excel Office 365 (Windows): Formatting Data
19.	Excel Office 365 (Windows): Creating & Saving Workbooks
20.	Excel Office 365 (Windows): Sharing & Collaborating on a Document
21.	Excel Office 365 (Windows): Custom & Conditional Formatting
22.	Excel Office 365 (Windows): Referencing Data
23.	Excel Office 365 (Windows): Working with Excel Tables
24.	Excel Office 365 (Windows): Finding & Grouping Data
25.	Excel Office 365 (Windows): Forecasting & Solving Problems
26.	Excel Office 365 (Windows): Creating Charts & Graphics
27.	Excel Office 365 (Windows): Working with Different Chart Styles
28.	Excel Office 365 (Windows): Inserting PivotTables
29.	Excel Office 365 (Windows): Using Conditional Formulas
30.	Excel Office 365 (Windows): Working with Data in PivotTables
31.	Excel Office 365 (Windows): Configuring Options & Settings
32.	Excel Office 365 (Windows): Finding & Analyzing Information with Formulas
33.	Excel Office 365 (Windows): Formatting Data
34.	Excel Office 365 (Windows): Managing Data
35.	Excel Office 365 (Windows): Getting to Know Macros in Excel

36.	Excel Office 365 (Windows): Creating & Editing Macros
37.	Excel Office 365: Working with Macros in Excel
38.	Excel Office 365 (Windows): Sorting & Filtering Data
39.	PowerPoint Office 365 (Windows): Getting Started
40.	PowerPoint Office 365 (Windows): Creating Presentations
41.	PowerPoint Office 365 (Windows): Saving Presentations
42.	PowerPoint Office 365 (Windows): Inserting & Manipulating Text
43.	PowerPoint Office 365 (Windows): Formatting Presentations
44.	PowerPoint Office 365 (Windows): Enhancing Presentation Designs
45.	PowerPoint Office 365 (Windows): Using Multimedia in Presentations
46.	PowerPoint Office 365 (Windows): Organizing Presentation Assets
47.	PowerPoint Office 365 (Windows): Adding Data to Presentations
48.	PowerPoint Office 365 (Windows): Creating Graphics & Diagrams
49.	PowerPoint Office 365 (Windows): Sharing & Collaborating on a Presentation
50.	PowerPoint Office 365 (Windows): Adding Animations
51.	PowerPoint Office 365 (Windows): Preparing & Delivering Slideshows
52.	PowerPoint Office 365 (Windows): Configuring PowerPoint
53.	Word Office 365 (Windows): Opening & Setting Up
54.	Word Office 365 (Windows): Creating, Opening & Saving Documents
55.	Word Office 365 (Windows): Editing Documents
56.	Word Office 365 (Windows): Formatting Documents
57.	Word Office 365 (Windows): Using Find & Replace Tools
58.	Word Office 365 (Windows): Sharing & Collaborating on a Document
59.	Word Office 365 (Windows): Structuring Documents
60.	Word Office 365 (Windows): Shaping Documents
61.	Word Office 365 (Windows): Illustrating Documents
62.	Word Office 365 (Windows): Creating Graphics & Diagrams
63.	Word Office 365 (Windows): Adding Data & Calculations
64.	Word Office 365 (Windows): Using Table Tools
65.	Word Office 365 (Windows): Using Research Tools
66.	Word Office 365 (Windows): Creating Forms
67.	Word Office 365 (Windows): Creating Bulk Mailings
68.	Word Office 365 (Windows): Using the Publishing Tools
69.	Word Office 365 (Windows): Configuring the Application
70.	Adobe Photoshop CC 2015 Basics

71.	Adobe Photoshop CC 2015: File Types and Color Editing
72.	Adobe Photoshop CC 2015: Selection Tools and Techniques
73.	Adobe Photoshop CC 2015: Layers and Type
74.	Adobe Photoshop CC 2015 Enhancement Tools and Techniques
75.	Adobe Photoshop CC 2015 Cloning and Editing
76.	Adobe Photoshop CC 2015 Paths and Techniques



## 1 Project Selection and Initiation

### Overview/Description

A project is a unique and temporary endeavor with the purpose of creating a new product, service, or result. A project will typically provide some benefit to the organization, either tangible or intangible. A business case explains this benefit and attempts to quantify or describe the value that the project will bring to the organization. In this course, you will be introduced to the basics of a project, including the project life cycle and process groups. You will also learn about the project charter, which gives the project manager the authorization to begin project work. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam. This course is aligned with exam version PK0-004.

### Lesson Objectives

- **Start the course**
- **Specify the properties of a project**
- **Recognize the business reasons for the project**
- **Distinguish between the different project selection methods**
- **Recognize the role of the project manager in comparison to other project roles**
- **Match project roles and responsibilities**
- **Classify stakeholders based on their roles and relationship to the project**
- **Distinguish between predictive and adaptive life cycles and identify multi-phase projects**
- **Distinguish between the different project process stages**
- **List the common elements of a project charter**
- **Identify the properties of a project, define the role of the project manager, and list the project process stages**



Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	1.0	Intermediate

## 2 Scope, Schedule and Cost Planning

### Overview/Description

During project planning, baselines are established for scope, schedule, and cost. Once project work begins, the baselines will be used to compare against actual project performance in order to determine and address any variance. If variance is detected, the project manager must identify the impact to other project areas and act accordingly. Actions may include realigning work to the plan or submitting change requests to update baselines. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- **Start the course**
- **Identify project requirements**
- **Identify the components of the project scope statement**
- **Define the work breakdown structure**
- **Specify tasks and milestones**
- **Use estimation techniques to determine activity durations**
- **Identify relationships between tasks, and prioritize and sequence them**
- **Identify the critical path and calculate its duration, and label start and finish dates**
- **Recognize the schedule compression techniques of crashing and fast tracking, and the schedule optimization techniques of leveling and smoothing**
- **Specify necessary resources to complete scheduled tasks, and establish baseline**
- **Specify the methods for gathering stakeholder requirements, list the six components of a scope statement, and name the four types of dependency relationships**

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	0.9	Intermediate

## 3 Resource and Risk Planning

### Overview/Description

During resource planning, the project team is selected and assignments are made. The project manager is responsible for negotiating for resources, training the team, and effectively resolving conflict. During risk planning, risks are identified and evaluated. Risk responses are planned accordingly. A SWOT analysis is also performed to determine strengths, weaknesses, opportunities, and threats. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- **Start the course**
- **Classify examples of project team organizational structures**
- **Label assignments using a RACI matrix**
- **Match the definitions of various resource concepts**
- **Define the activities and attributes needed to successfully manage teams**
- **Choose the project influence that best matches the given scenario**
- **Identify the types of organizational change**
- **Identify the various risk activities**
- **List the various risk strategies**
- **Distinguish between the different parts of a SWOT analysis**
- **List the stages of team development, name the four risk responses for threats, and specify the four quadrants of a SWOT analysis**

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	1.0	Intermediate

## 4 Communication, Changes, and Documentation

### Overview/Description

During the execution of project work, the project manager is responsible for communicating project performance. At this stage, project work has begun, and preventive or corrective changes may be needed to ensure performance aligns with the plan. Documentation of all project plans, activities, and changes is vital. Documents may be used for reference purposes, to avoid misunderstandings, and to record lessons learned for this and future projects. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- **Identify the various methods of communication**
- **Distinguish between the different factors that influence communication methods**
- **Identify the various communication triggers**
- **Recognize the types of communication and documentation tools**
- **Define the scope, schedule, and cost baselines in the context of a project plan**
- **List the common constraints to project success**
- **List the steps of the change control process**
- **Recognize the types of common project changes**
- **Identify common vendor documents**
- **list the three classifications of communication methods, name the three triple constraints, and specify the steps of reviewing a change request**

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	1.0	Intermediate

## 5 Controlling Project Work and Closing

### Overview/Description

While controlling project work, the project manager is responsible for identifying variances between project performance and the project baselines and realigning project performance with the plan. During closing, the project manager will document lessons learned and ensure that project deliverables are accepted by the customer and transitioned to the customer. This course covers an overview of Agile methodologies. These methodologies are then compared with traditional project management methodologies. This course also provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- **Identify project expenditures and compare actual spending against the plan**
- **Use earned value management formulas to determine cost and schedule performance**
- **Use earned value management formulas to forecast the final project costs and variance from the budget**
- **Apply scheduling tools and techniques to determine project performance**
- **Distinguish between quality control tools**
- **Identify sources of lessons learned**
- **List the steps required to close a project or phase**
- **Distinguish between traditional and agile project methodologies**
- **Identify the basic aspects of agile methodologies and SCRUM**
- **Identify Earned Value Management formulas, list the seven basic quality tools, and specify the four Agile values**

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	1.0	Intermediate

## 6 Planning and Controlling the Project Schedule

### Overview/Description

This course offers practice and solutions for performing the forward and backward pass; calculating total float and free float; and critical path, resource optimization, and schedule compression techniques. While controlling project work, the project manager is responsible for identifying variance between project performance and the project baselines, and realigning project performance with the plan. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- **Perform a forward pass using the critical path method**
- **Perform a backward pass using the critical path method**
- **Identify the total float of each noncritical path**
- **Identify the free float of each activity on a noncritical path**
- **Identify the critical path and its characteristics**
- **Recognize how to create a schedule network diagram from a table**
- **Recognize if resource leveling is the ideal resource optimization technique, given a scenario**
- **Recognize if resource smoothing is the ideal resource optimization technique, given a scenario**
- **Recognize if crashing is the most appropriate schedule compression technique, given a scenario**
- **Recognize if fast tracking is the most appropriate schedule compression technique, given a scenario**



Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	0.9	Intermediate

## 7 Project Management Practical Exercises

### Overview/Description

This course offers practice using the formulas for earned value management, communication channels, and make or buy analysis, and how to use a control chart and identify when a process is out of control. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- Calculate the planned value and earned value, given the budget, % of time passed, and % of work completed
- Calculate the schedule variance and schedule performance index, given the earned value and planned value
- Calculate the cost variance and cost performance index, given the earned value and actual costs
- Determine project performance, given a set of raw data points
- Utilize work performance data to determine project performance
- Determine the estimate at completion, using the formulas for scenarios 1 and 2
- Recognize how the choice of EAC formula depends on the project situation
- Use a control chart to determine when a process is out of control
- Calculate the number of communication channels, given the number of members on a team
- Perform a make or buy analysis and determine the break-even point

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	1.1	Intermediate

## 8 Quality and Procurement Planning

### Overview/Description

During project planning, quality assurance processes are established to ensure that the deliverable meets requirements. Once project work begins, quality control tools and techniques are used to compare the deliverable to the scope. If variance is detected, the project manager must identify the root cause and act accordingly. During procurement planning, the project team will select the most appropriate contract type. Options include fixed price, cost reimbursable, and time and materials contracts. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- Identify characteristics of fixed-price contracts
- Identify characteristics of cost reimbursable and time and materials contracts
- Distinguish between the four cost of quality categories
- List the characteristics of quality assurance
- List the characteristics of quality control
- Recognize the relationship and distinction between quality assurance and quality control
- Recognize the types of change requests that arise from quality processes
- Distinguish between quality and grade, precision and accuracy, and recognize the impact of gold plating
- Recognize agile and lean quality tools and techniques
- Specify the types of procurement contracts, identify the elements of cost of quality and list the eight forms of waste, or muda

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	0.9	Intermediate

## 9 Project Planning Documents

### Overview/Description

When planning a project, various project artifacts are created to fully document project work from beginning to end. These artifacts are maintained as assets for reference purposes for the current project and also for future project work. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- Identify the project statement of work, business case, and project charter
- Identify the purpose of the project management plan and subsidiary plans
- Identify the project scope statement, work breakdown structure (WBS), WBS dictionary, and requirements traceability matrix
- Identify the activity list, activity attributes, milestone list, and project schedule network diagrams
- Identify activity cost estimates and the basis of estimates
- Identify the resource breakdown structure, resource calendars, project staff assignments and team performance assessments
- Identify the risk register and its elements
- Identify documents to solicit vendor proposals, seller proposals, source selection criteria, and procurement statement of work
- Identify the stakeholder register and issue log
- Identify documents from scope planning, planning procurement, and planning the schedule

Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	0.7	Intermediate

## 10 Project Documents and Terminology

### Overview/Description

Once project work begins, the project manager and team must monitor project performance against the plan. Variance is addressed in order to keep the project on track. Various project documents are created and utilized when monitoring and controlling project work. Common project terminology and acronyms are also utilized across the industry and within project teams to ensure effective communication, and the removal of barriers to understanding. This course provides a foundational knowledge base reflecting the most up-to-date project management information so you can effectively put principles to work at your own organization. This course will assist in preparing you for the CompTIA Project+ exam, and it is aligned with exam version PK0-004.

### Lesson Objectives

- Identify quality checklists, checksheets, metrics, and measurements
- Distinguish between work performance data, information, and reports
- Identify change requests and the change log
- Distinguish between earned value management terminology and acronyms
- Distinguish between procurement terminology and acronyms
- Distinguish between procurement vendor solicitation terminology and acronyms
- Distinguish between terms and acronyms for project tools and governance
- Distinguish between schedule terminology and acronyms
- Distinguish between quality and resource terminology and acronyms
- Specify the types of work performance documents, and identify earned value management and procurement terminology



Target Audience	Expected Duration (hours)	Expertise Level
Candidates who possess at least 12 months of cumulative experience in leading, managing, directing, and/or participating in small-to-medium-size projects	0.6	Intermediate

## 11 IT Security for End Users: IT Security Fundamentals

### Overview/Description

Companies that have the greatest chance of fending off IT security attacks are those that have employees who are armed with the knowledge of how to use a company's computers, network, and mobile devices with security in mind. In this course, you'll learn fundamental security concepts that apply to use as an end user, like the role you play in your company's overall IT security. This course also covers some of the most common IT security policies that apply to you as an end user, including policies for secure computer use, mobile device use, and general security policies if you work remotely.

### Lesson Objectives

- Describe what IT security is and what it includes
- Identify the role and purpose of IT security in the corporate environment
- Distinguish between confidentiality, integrity, and availability security objectives
- Identify the end user's role in overall IT security
- Describe general IT policy characteristics
- Identify computer and hardware security policy best practices
- Identify mobile device security policy best practices
- Identify e-mail and Internet security policy best practices
- Identify social networking security policy best practices
- Identify password security policy best practices
- Describe the specific security considerations for remote users
- Identify remote user security policy best practices
- Identify fundamental IT security best practices for the work environment

Target Audience	Expected Duration (hours)	Expertise Level
End users of computer systems and mobile devices in a corporate environment, individuals interested in fundamentally secure computers, and communications practices	0.9	Beginner

## 12 IT Security for End Users: Using Corporate Devices Securely

### Overview/Description

Knowing how to use corporate computers and devices in a secure way helps ensure you don't jeopardize your work, your organization, or your personal security. In this course you'll learn about common threats to corporate computers, including malicious attacks, and best practices for using your computer in ways that prevent these attacks. This course also covers some of the security threats you might face when using corporate mobile devices, and techniques you can use to protect your device and yourself.

### Lesson Objectives

- Describe characteristics of human error threats to corporate computer security
- Describe characteristics of malicious behavior that threatens corporate computer security
- Identify best practices for protecting your corporate computer against malicious behavior
- Describe characteristics and best practices for using file encryption and access controls to protect your corporate computer
- Describe characteristics and best practices for using system patches to protect your corporate computer
- Describe characteristics and best practices for using antivirus software to protect your corporate computer
- Identify potential physical security threats to corporate mobile devices
- Distinguish between the different types of malware threats
- Identify characteristics of threats to mobile devices via wireless networks
- Identify best practices for securing corporate mobile devices against common physical threats
- Identify best practices for securing corporate mobile devices against common malware threats
- Identify best practices for securing corporate mobile devices against common wireless network threats
- Identify best practices for securing both corporate computers and corporate mobility devices against common threats

Target Audience	Expected Duration (hours)	Expertise Level
End users of computer systems and mobile devices in a corporate environment, individuals interested in fundamentally secure computers, and communications practices	0.8	Beginner

## 13 IT Security for End Users: Secure Corporate Communications and Networking

### Overview/Description

The advancement in corporate communications and social networking has opened countless opportunities and new ways for people to perform their jobs. But just as our IT communications options have advanced, so have the security threats posed by these advancements. In this course you'll learn about the common threats to corporate computers and devices that exploit vulnerabilities in our communications and networking methods such as e-mail, Internet, and social networking platforms. This course also covers best practices and techniques to mitigate security risks while conducting communications as part of your job. Finally this course covers what social engineering is, and how as an end user of corporate computers and devices you can protect yourself and your company from the intelligent ways hackers use social engineering.

### Lesson Objectives

- Identify the threats to corporate security that can result from unsecured communications technologies
- Identify the potential threats from unsecured e-mail usage
- Describe best practices for ethical and safe e-mail use
- Identify the common security threats to corporate systems and infrastructure from using unsecured webmail access at work
- Identify best practices for securely accessing webmail services
- Describe the common corporate security risks of Internet usage
- Identify secure corporate Internet usage best practices
- Identify characteristics and risks of social engineering scams
- Describe techniques to avoid being a victim of social engineering scams
- Identify risks to corporate systems from unsecured social networking activities
- Identify best practices when using social networking platforms
- Identify best practices for securely using corporate e-mail, access webmail, Internet use, and social networking activities

Target Audience	Expected Duration (hours)	Expertise Level
End users of computer systems and mobile devices in a corporate environment, individuals interested in fundamentally secure computers, and communications practices	0.8	Beginner

## 14 Excel Office 365 (Windows): Getting Started

### Overview/Description

Get started with Excel Office 365. This course explores the interface and some of its features and functions. See how to Find Excel from your Windows 10 search bar, and start menu; pin the Excel icon to the task bar for easy access. Familiarize yourself with the Excel interface. Discover Excel's features and functions, such as the ribbon with multiple tabs, the status bar, and the Quick Access toolbar. Zoom in on your work, or zoom out to get the big picture. Preview page breaks, page layout, and enter data in normal mode. Open multiple worksheets simultaneously. Finally, explore how to adjust and move between views.

### Lesson Objectives

- Find and open the Excel application
- Explore the Excel Interface
- Use the Excel 365 zoom function
- Use the Excel 365 view modes
- Move between Excel 365 workbooks

Expected Duration (hours)	Expertise Level
0.4	Beginner



## 15 Excel Office 365 (Windows): Illustrating Documents

### Overview/Description

An Excel for Office 365 worksheet can contain more than just numbers and text. Discover how to insert and edit images, screenshots, and shapes, insert hyperlinks, and use the new Smart Lookup feature. Key concepts covered in this 7-video course include how to insert images and photographs to illustrate a table; how to insert a screenshot and to move, resize, or crop it; and how to edit an image by adjusting its brightness, contrast, and saturation levels and even adding a border. Next, you will learn how to create diagrams by using shapes and adding shape effects; learn how to insert and modify icons in a worksheet; and learn the best practices for inserting a hyperlink into your sheet. Finally, you will learn how to use the Smart Lookup tool to quickly access additional information about words used in your document and see images, definitions, and information appearing on the Web, related to the selected word, by using this tool.

### Lesson Objectives

- **Insert an image in Excel 365**
- **Insert a screenshot in Excel 365**
- **Edit an image in Excel 365**
- **Insert shapes**
- **Insert icons in Excel 365**
- **Insert a hyperlink in Excel 365**
- **Use Excel 365's Smart Lookup**

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 16 Excel Office 365 (Windows): Inserting & Manipulating Data

### Overview/Description

Delve into data manipulation techniques with Excel Office 365 for Windows. In this course, learners can explore numerous ways to insert, edit, replace or delete data. Key concepts covered in this course include; how to insert a text character or symbol if this is not located on your computer; how to perform simultaneous edits of data cells with the same cell locations, but found on different worksheets. Learn how to simultaneously edit cells across multiple worksheets; undo previous actions; create an automatic data series; and flash fill data ranges, based on patterns. Other topics include how to limit values and speed up data entry with drop down menus; how to use and configure spell check and autocorrect; edit the dictionary and copy and paste data. Explore how to format values and formulas within spreadsheets, between spreadsheets, or within workbooks; transpose a data range. Finally, familiarize yourself with how to extract data from multiple worksheets and consolidate.

### Lesson Objectives

- **Select cells in your Excel 365 spreadsheet**
- **Input data in your Excel 365 spreadsheet**
- **Insert special characters in Excel 365**
- **Edit multiple Excel 365 worksheets simultaneously**
- **Delete items in your Excel 365 spreadsheet**
- **Undo and redo actions in Excel 365**
- **Create automatic data series in Excel 365**
- **Use the Excel 365 Flash Fill feature**
- **Insert dropdown menus in Excel 365**
- **Use the Excel 365 spell check tool**
- **Configure spell check and AutoCorrect options in Excel 365**
- **Transfer data in Excel 365**
- **Copy and paste data in Excel 365**
- **Move data from one Excel 365 worksheet to another**
- **Use the Excel 365 Paste Special tools**
- **Transpose a data range in Excel 365**
- **Consolidate your data in Excel 365**

Expected Duration (hours)	Expertise Level
1.2	Beginner



## 17 Excel Office 365 (Windows): Basic Formulas

### Overview/Description

Formulas in MS Excel for Office 365 are useful in helping you visualize data. This course explores the large collection of formulas available in the Excel searchable library. Learn how to program each data cell to perform calculations, insert subtotals, create automated cumulative totals, and apply a formula to a large number of entries with the fill down function. Observe how to employ the COUNTA, COUNTIF, number rounding, and replacement formulas. Other topics explore how to rank a value with the rank function; convert between binary and hexadecimal number systems; factorize division results with the QUOTIENT and MODE formulas, and generate random values.

### Lesson Objectives

- **Insert a formula using the Excel 365 function library**
- **Perform simple calculations in Excel 365**
- **Use automated formulas in a table in Excel 365**
- **Create automated cumulative totals in Excel 365**
- **Insert subtotals in Excel 365**
- **Count cells in a range in Excel 365**
- **Rank a value in Excel 365**
- **Round a number in Excel 365**
- **Use replacement formulas in Excel 365**
- **Convert number types in Excel 365**
- **Factorize the results of a division in Excel 365**
- **Create random values in Excel**

Expected Duration (hours)	Expertise Level
0.9	Beginner

## 18 Excel Office 365 (Windows): Formatting Data

### Overview/Description

Formatting data makes it easier to see and work with. Discover how you can align data, use colors and themes, resize rows and columns, and insert tables and borders in Excel to change the presentation of your data.

### Lesson Objectives

- **Setting your data type**
- **Formatting your data**
- **Aligning your data**
- **Using colors**
- **Changing your cell style**
- **Using document themes**
- **Using formulas to modify your text case**
- **Creating a title**
- **Formatting a title**
- **Creating a table**
- **Resizing columns & rows**
- **Inserting columns & rows**
- **Inserting borders**
- **Transferring format styles**

Expected Duration (hours)	Expertise Level
0.9	Beginner



**Return to**  
Productivity &  
Collaboration:  
Overview

## 19 Excel Office 365 (Windows): Creating & Saving Workbooks

### Overview/Description

Creating a new spreadsheet and workbook, with Excel Office 365 for Windows couldn't be easier. Learn how to browse the Excel template library and download and configure a spreadsheet template. Next, navigate between your worksheets and modify their properties. Save your worksheet or workbook as an Excel version or a pdf. Other topics in this course include how to recover unsaved documents, use headers and footers, print your spreadsheet, preview and adjust page breaks, layout, orientation, margins, and the print area. You'll also learn how to edit workbook properties, locate and shield confidential information with the Document Inspector; improve handicap accessibility with the Document Scanner; protect your worksheet and workbook from changes, or restrict all access with a password.

### Lesson Objectives

- **Create and open a spreadsheet in Excel 365**
- **Use Excel 365 document templates**
- **Manage your worksheets in Excel 365**
- **Save your spreadsheet in Excel**
- **Save your Excel 365 spreadsheet as a PDF**
- **Recover unsaved Excel 365 documents**
- **Insert headers and footers in your Excel 365 spreadsheet**
- **Set your print area in Excel 365**
- **Adjust your print page layout in Excel 365**
- **Print your Excel 365 spreadsheet**
- **Check for compatibility issues in Excel 365**
- **Edit your Excel 365 document properties**
- **Check for personal information in your Excel 365 document**
- **Create an accessible spreadsheet in Excel 365**
- **Protect your Excel 365 spreadsheet**

Expected Duration (hours)	Expertise Level
1.2	Beginner

## 20 Excel Office 365 (Windows): Sharing & Collaborating on a Document

### Overview/Description

Excel for Office 365 enables you to share documents via email, upload them to OneDrive, and use SharePoint to collaborate with your team. This course demonstrates how to share workbooks via links, how to choose editing permissions, and manage access to shared links. There are topics such as how to share your spreadsheet or workbook, send it as an .xls or a .pdf with integrated email functions and how to set its editing permissions and send a link. You'll explore how to view your shared documents in Excel, save your Excel documents online with OneDrive, to allow collaborators to check out a document and prevent others from working on it at the same time. Learn how to coordinate document modification, to permit collaborators to make comments about particular data entries. Finally, observe how to track document changes.

### Lesson Objectives

- **Send your Excel spreadsheet via email**
- **Share your workbook via a link in Excel**
- **Manage link access and permissions in Excel**
- **Save your spreadsheets to OneDrive in Excel**
- **Manage a workbook's version history in Excel**
- **Comment on a spreadsheet in Excel**
- **Collaborate on an Excel spreadsheet**
- **Follow and track document changes in Excel**

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 21 Excel Office 365 (Windows): Custom & Conditional Formatting

### Overview/Description

In this 10-video course, learners can explore how to use built-in formulas in Excel for Office 365, and how to create their own formats. This course demonstrates how to properly display a value—for example, a fraction, currency, or telephone number. You will then learn how to use the custom text format menu to insert additional data into cells, and to change the appearance of existing text. You will learn to use a variety of date and time formats built into Excel, how to create a customized format, and how to modify the color applied to data in a spreadsheet. This course demonstrates how to use Conditional Formatting highlights by adding visual indicators to data values, for example, to highlight specific cells, rows, or columns. You will learn how to use several Conditional Formatting tools to analyze data, and to use advanced conditional formatting by highlighting specific data criteria. Finally, learn how to set the hierarchical order of the Conditional Formatting rules apply, and how to resolve rule conflicts in Excel.

### Lesson Objectives

- **Format currency, percentage and phone numbers with data values**
- **Change your text format by adding or modifying a text elements appearance**
- **Change your text format by adding or modifying a text elements appearance**
- **Create custom color formatting for data entries**
- **Apply conditional custom formatting to data values**
- **Create conditional format rules to enhance your data values display**
- **Use conditional formatting to highlight data in cells, rows and columns**
- **Use conditional formatting tools to analyze your data further**
- **Use advanced conditional formatting tools to find duplicate values or hide values**
- **Organize conditional formatting rules applied to a worksheet**

Expected Duration (hours)	Expertise Level
0.9	Intermediate

## 22 Excel Office 365 (Windows): Referencing Data

### Overview/Description

Explore how to use reference cells in Excel for Office 365 in this 10-video course, which shows learners how to use cell coordinates to extract specific cell values, to reference individual cells, a range of cells, and entire columns and rows. First, learn how to reference data stored in different workbooks. Then you will examine when to use absolute, relative, and mixed cell references using the Fill function, or to copy formulas to a different cell or spreadsheet. You will learn how to name data ranges, how to refer to them in later calculations, and how to edit, adjust, and manage named ranges. This course demonstrates how to visualize, edit, and remove name ranges. You will learn how to use the INDIRECT formula to refer to a cell indirectly. You will learn how to use the Watch Window to monitor selected data entries from separate spreadsheets simultaneously, and how to activate and deactivate automatic updates. Finally, you will learn how to audit formulas in Excel.

### Lesson Objectives

- **Reference cells in your Excel worksheet**
- **Use data across multiple worksheets to reference data for formulas**
- **Define absolute and relative cell references**
- **Name data ranges to refer to date and facilitate calculations**
- **Use the Name Manager to visualize, edit, and delete existing named ranges**
- **Perform calculations using constant values**
- **Use cell references indirectly**
- **Monitor data entries for changes and errors**
- **Activate and configure automatic updates**
- **Use formula auditing tools to track data**

Expected Duration (hours)	Expertise Level
0.8	Intermediate



## 23 Excel Office 365 (Windows): Working with Excel Tables

### Overview/Description

Explore how to use tables in Excel for Office 365 to manage, analyze, and manipulate data in a range, in this 6-video course, which demonstrates how to convert data ranges into a table, giving you greater control over data, and provides more tools for manipulating the data. You will learn how to create calculated columns to perform automated calculations, quickly clean up your data with a sweep, and transform your data into a PivotTable. Next, learn how to use the Table Design tab to change the appearance of your data. This course demonstrates how to use Excel's standard styles, how to create a custom style, and set it as the default. You will also learn how to use the Table Design tab to improve legibility with banded columns and rows, add total row calculations to add summaries to your data, and show or hide the filter buttons. Finally, this course demonstrates how to use slicers to filter and manipulate data.

### Lesson Objectives

- **Convert a data range into an Excel table and edits its contents**
- **Perform calculations and manipulate data in an Excel table**
- **Use the formatting tools and styles to change the appearance of a table**
- **Customize the table settings and tools**
- **Use slicers to filter data in an Excel table**
- **Resize and format a slicer**

Expected Duration (hours)	Expertise Level
0.3	Intermediate

## 24 Excel Office 365 (Windows): Finding & Grouping Data

### Overview/Description

Learners can explore several methods for locating, displaying, and manipulating data entries in Excel for Office 365, in this 8-video course. First, learn how to use the name box in the Go To tool and Find tool to perform basic search queries in your data. Then learn how to customize the Find tool to make queries more precise. You will learn to use the Selection tools to find and select objects that have been inserted into your worksheet. This course demonstrates how to use the Selection pane to visualize multiple objects. Learners will observe how to use the Replace tool to replace specific items, and how to create a search query, customize replacement parameters, and replace cell formats. You will learn to use the Find & Replace tool, how to use the Freeze pane to check data without opening multiple panes, how to create your own Freeze panes, and how to use the Split view. Finally, you will learn how to group rows and columns in Excel to summarize data.

### Lesson Objectives

- **Use the Find tools to jump to locations in a worksheet and find items with basic search queries**
- **Use the advanced Find tools to customize and refine search queries**
- **Use the Selection tools to locate and select graphical objects in a worksheet**
- **Use the Replace tools to replace cell contents and formats**
- **Use the Find and Replace tools when working specifically with formulas**
- **Use the Freeze tools to change the view settings within a worksheet**
- **Group rows and columns in a worksheet and control their display**
- **Use the Group tools to create Outlines in a worksheet**

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 25 Excel Office 365 (Windows): Forecasting & Solving Problems

### Overview/Description

This 8-video course explores the wide range of formula error messages in Excel for Office 365. Learn how to identify several error messages, and how errors are produced. You will learn to use the Formula auditing tools to evaluate and resolve nested formulas, and to trace errors to their source. Next, learners will observe how to use Excel's data types to insert and visualize information associated with the data, and how to create a loan amortization schedule. This course demonstrates how to use the Goal Seek tool to find a target value. You will learn how to use the Solver tool to automatically solve mathematical problems in a table by selecting the value that you want to optimize, minimize, or otherwise adjust. Then learn how to use One-Click Forecasting to make predictions on historical data, and to adjust the timeline and seasonality settings, and make changes to the forecast data once the sheet has been inserted. Finally, you will learn how to test what-if scenarios while working on data.

### Lesson Objectives

- **Identify formula errors**
- **Check for and evaluate formulas in a workbook**
- **Insert and visualise dynamic geographical and stock-related data in a worksheet**
- **Use formulas to estimate loan-related costs**
- **Use the Goal Seek tool to modify a data variable and reach a target value**
- **Use the Solver add-in to analyze constraints and variables and optimize data values**
- **Insert a Forecast worksheet to display trends and predictions based on available historic data**
- **Use Data Tables to create what if, variable-based scenarios**

Expected Duration (hours)	Expertise Level
0.8	Intermediate

## 26 Excel Office 365 (Windows): Creating Charts & Graphics

### Overview/Description

Learners can explore the use of charts in Excel for Office 365 to enhance the look of data in this 10-video course, which demonstrates how to use several of Excel's charts, and how to customize charts for specific data. You will learn to use the Quick Analysis tool to insert a chart, and how to use visualized patterns to display data. This course then examines how to label charts, and how to choose which elements to show, including labels, legends, and titles. Learners will observe how to use the Formatting tools to change a chart's appearance. You will learn to customize your chart axes, how to adjust measurements, how to move maximum and minimum values, and how to change the point where the two axes cross in the chart. This course examines how to use Sparklines to represent an overall trend of a selected data range, and to format them further. Finally, you will learn how to select a color scheme, mark different data points, and even highlight the negative values in a trend.

### Lesson Objectives

- **Insert , edit and remove charts**
- **Insert charts quickly**
- **Customize chart labels**
- **Format a chart**
- **Customize chart elements**
- **Customize chart axes**
- **Create a chart template**
- **Present negative values in a chart**
- **Insert trendlines**
- **Customize trendlines**

Expected Duration (hours)	Expertise Level
0.6	Intermediate



## 27 Excel Office 365 (Windows): Working with Different Chart Styles

### Overview/Description

In this 6-video course, you will explore the variety of chart types and templates available in Excel for Office 365 to visually enhance the displayed data. First, learn how to insert, format, and manipulate charts, starting with a pie chart. You will then learn how to insert and use a scatter chart to analyze correlations and relationships between different data series. This course demonstrates the use of bubble charts to reference three different types of information in a single chart. Learners will examine how to use a radar chart to plot five different data values, and how to compare the form and size of the shape created along the five different axes to get an overall representation of the data series. You will learn to use a combo chart to create a graphic that combines multiple data types. Finally, when you have data relating to regions, countries, or other locations, you will learn how to use the map chart to plot values on a geographic display.

### Lesson Objectives

- **Insert and edit a Pie chart**
- **Create and edit a Scatter chart**
- **Create and edit a bubble chart**
- **Create and edit a radar chart**
- **Combine two types of chart using the Combo chart**
- **Create and edit a Map chart**

Expected Duration (hours)	Expertise Level
0.4	Intermediate

## 28 Excel Office 365 (Windows): Inserting PivotTables

### Overview/Description

This 11-video course provides learners with an in-depth exploration of how to use PivotTables in Excel for Office 365. PivotTables are highly customizable and can be used to extract patterns and trends that you may have initially missed in your data. You will learn how to create a PivotTable, and to modify it to change which fields have been inserted, and change the performing calculations. Next, you will learn to improve the appearance of your PivotTable by changing the style, color settings, and the fonts. This course demonstrates how to use the automatic sorting tools, drag and drop labels, and to sort your data by value. You will examine filters in Excel, and how label filters can be used to show and hide data based on the label associated with data values. You will observe how to use slicers to filter and manipulate data in a PivotTable, which provides a clear visual guide to the table's contents. Finally, you will learn to use the Timeline tool to work with dates in your PivotTable.

### Lesson Objectives

- **Insert a PivotTable**
- **Edit the source data and field setup in a PivotTable**
- **Use predefined styles and formatting tools to change the appearance of a PivotTable**
- **Copy and move a PivotTable within a workbook**
- **Use sort tools to change the display of data in a PivotTable**
- **Use filter tools to show and hide data in a PivotTable**
- **Use label and value filters to analyze data in a PivotTable**
- **Use group tools to sort and analyze related data in a PivotTable**
- **Use a Slicer to filter data in a PivotTable**
- **Customize the behavior and appearance of a Slicer**

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 29 Excel Office 365 (Windows): Using Conditional Formulas

### Overview/Description

This 8-video course explores how to use built-in formulas to perform a calculation on a range of values in Excel for Office 365. You will begin by learning how to insert a conditional sum using SUMIF formulas to perform a sum calculation on selected data values in your range. You will next learn how to use the IF function to determine whether a condition is met or not met, and to use the IF function in conjunction with other formulas. This course continues by demonstrating how to embed multiple IF formulas within one another to obtain multiple result options. You will learn to combine qualifying and alternate conditions using the IF and OR in conditional formulas. Next, learners will observe how to use Conditional Formulas to count value occurrences. You will learn to use reference positions in Conditional Formulas. Finally, this course demonstrates how to keep your table up to date with Conditional Formulas by using formulas such as COUNTA and OFFSET.

### Lesson Objectives

- **Inserting a conditional sum formula**
- **Inserting a conditional message formula**
- **Performing complex conditional formulas**
- **Creating multiple conditions**
- **Using IF & OR in conditional formulas**
- **Using conditional formulas to count up value occurrences**
- **Using reference positions in conditional formulas**
- **Keeping your table up to date with conditional formulas**

Expected Duration (hours)	Expertise Level
0.7	Intermediate

## 30 Excel Office 365 (Windows): Working with Data in PivotTables

### Overview/Description

Explore ways to analyze data for trends by using a PivotTable in Excel for Office 365, in this 8-video course, which demonstrates how to organize fields, add extra levels of detail to data, and to insert multiple value fields in a single table. You will observe how to use a data model to pull data from multiple tables and build a relational data source inside a workbook. This course demonstrates how to pull data from external sources, for example, an Access database, and analyze it in a PivotTable. You will learn to insert calculated fields that use already inserted data in the PivotTable. You will also learn how to change a summary calculation or apply a comparison in a PivotTable, and how to visualize data rank as a percentage or as a difference. You will learn how to create a new PivotChart or convert already inserted data in a PivotTable. Finally, you can use PivotTable options to change how null data values and errors are displayed.

### Lesson Objectives

- **Use a PivotTable to find trends and drill into data**
- **Use the Data Model to work with data from multiple tables**
- **Import existing database tables into the Data Model and use them in a PivotTable**
- **Add Calculated Items and Calculated Fields to a PivotTable**
- **Use the Value tools to and summary and comparison calculations**
- **Visualize data from a PivotTable in a PivotChart**
- **Customize and format a PivotChart**
- **Configure and customize a PivotTable's display and control settings**

Expected Duration (hours)	Expertise Level
0.5	Intermediate



## 31 Excel Office 365 (Windows): Configuring Options & Settings

### Overview/Description

This 10-video course offers learners an in-depth exploration of how to customize Excel for Office 365 to their specific requirements. Learn how to connect to SharePoint, OneDrive and the Office Store from your Microsoft account. Then learn how to search the add-in store, install an add-in, and to manage installed add-ins from the Office ribbon. Learners will observe how to create a custom template, and make it a default template. This course demonstrates how to activate and deactivate the Live Preview function, to switch off the Quick Analysis tools, hide the mini-toolbar, and other customizations. You will learn to specify the number of worksheets in a new document, change the default font, and the View Mode. Continue by learning how to configure AutoSave, and to adjust the default Save format and location. This course demonstrates how to change the background and theme, customize your Office copy, change your window and status appearance, and language settings. Finally, you will learn how to add shortcuts with the Quick Access Toolbar, and customize the Office Ribbon

### Lesson Objectives

- **View and configure connected account and services in Excel**
- **View and configure Add-ins in Excel**
- **Create, save and reuse a custom template**
- **Configure user and input behavior in Excel**
- **Change default formula and calculation settings in Excel**
- **Change the workbook default settings in Excel**
- **Customize the way in which workbooks are saved in Excel**
- **Customize the appearance of the Excel application**
- **Customize the Quick Access Toolbar and its commands**
- **Customize the Office Ribbon and its commands**

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 32 Excel Office 365 (Windows): Finding & Analyzing Information with Formulas

### Overview/Description

Learners can explore the wide variety of tools available in Excel 365 for Office to retrieve, return, and calculate data in Excel, in this 9-video course. First, learn several formulas to automatically find a date for a specific month, day, or year. Then learn how to use Excel's RANK function to find a specific value in a data list, and how to use SMALL and LARGE formulas. This course demonstrates how to use the CONCAT and TEXT JOIN formulas to combine data from multiple cells into a single cell. You will observe how to use SUMPRODUCT formula to link calculations to produce a summary of a data table. Continue by learning how to use the VLOOKUP and HLOOKUP formulas to cross-reference the contents of two lists, and to find data in a table or data range in one list by using a search term from another list. Finally, you will learn how to use the VLOOKUP formula to perform lookup operations with lists and return corresponding values.

### Lesson Objectives

- **Extract date values and perform calculations using dates**
- **Retrieve information relating to dates in the past, present, and future**
- **Use ranking formulas to find smallest and largest values in a list**
- **Extract data and separate values into separate cells in Excel**
- **Combine existing data values in a single cell in Excel**
- **Analyze complex tables with multiple arrays to obtain a summarized result**
- **Use the VLOOKUP, HLOOKUP and XLOOKUP formulas to cross-reference data lists and check for missing values**
- **Use conditional formulas to perform a search across multiple tables and automatically insert data**
- **Use the VLOOKUP formula to cross-reference data lists and retrieve corresponding values**

Expected Duration (hours)	Expertise Level
0.7	Intermediate



## 33 Excel Office 365 (Windows): Formatting Data

### Overview/Description

Formatting data makes the data easier to see and work with. Refine your data's appearance, with Excel Office 365 for Windows. During this course, you will learn how to align data, use colors, and themes, resize rows and columns, and insert tables and borders in Excel to change the presentation of data. You will learn how to organize your data into a table, format, sort, and apply filters and themes, and format a title. Explore topics such as how to adjust color, outlines, rotation, shadows, glows, and reflections; resize columns and rows; insert new columns and rows; change cell styles. Add cell borders. Alter background and data colors. Standardize your data's typographical appearance. Adjust the vertical and horizontal alignment of data. Adjust font effects. Employ text conversion formulas, to change capitalization and proper nouns. Transfer your format to another data selection.

### Lesson Objectives

- Set your data type in Excel 365
- Format your data in Excel
- Align your data in Excel
- Use colors in your Excel 365 spreadsheet
- Change your cell style in Excel 365
- Use Excel 365 document themes
- Use formulas to modify your text case in Excel 365
- Create a title in Excel 365
- Format a title in Excel 365
- Create a table in Excel 365
- Resize columns and rows in Excel 365
- Insert columns and rows in Excel 365
- Insert borders in Excel 365
- Transfer format styles in Excel 365

Expected Duration (hours)	Expertise Level
0.9	Beginner

## 34 Excel Office 365 (Windows): Managing Data

### Overview/Description

This 8-video course provides an in-depth exploration of tools available for data analysis, and it examines complex formulae in Excel for Office 365. Learners will observe how to use Power Query to transform the data to fit an Excel file. This course demonstrates how Excel allows you to import and edit data from a CSV (comma separated value) file. You will then learn how to use the LOOK UP formula to find a value in a double entry table. This course continues by demonstrating how to use different formulae to make calculations when multiple conditions have been imposed. You will examine the IFS and switch function to test multiple conditions without nesting the IF function. Next, you will learn how to use the AVERAGEIF, the MINIFS, and MAXIFS functions. You will learn how to use the NPER (number of periods required) function to calculate the number of months to reimburse a loan. Finally, you will learn how to use the IF and AND functions to forecast data.

### Lesson Objectives

- Import, edit and update data from a text file
- Import, edit and update data from a .csv file
- Use the LOOKUP, MATCH and INDEX functions to extract data
- Run multiple conditions without nesting other functions
- Calculate averages using one or more conditions
- Calculate the smallest and the largest numbers that meet one or more criteria
- Count cells that meet one or more criteria
- Calculate the number of periods to pay a loan and forecast loan approval that meet one or more criteria

Expected Duration (hours)	Expertise Level
0.7	Expert



## 35 Excel Office 365 (Windows): Getting to Know Macros in Excel

### Overview/Description

Learners will receive an in-depth exploration of macros to automate frequent tasks in Excel for Office 365, in this 10-video course, which shows how to record macros, perform actions to automate tasks, and how to save a workbook as an Excel macro-enabled workbook. You will examine how to access macro tools by adding macro recording to the status bar, and by activating the Developer tab in the tool ribbon. Next, you will learn how to use the Visual Basic editor and navigate the key interface tools to manage your macros and workbook VBA (Visual Basic for Applications) code. You will learn how to use the VBA editor to remove unwanted actions, correct errors, or remove macros from your Excel macro document. You will examine Excel's security and warning details to ensure a macro from an outside source is safe, and learn how to access and manage documents from the Developer tab. Finally, learners will observe how to copy and import macros into other macro documents.

### Lesson Objectives

- **Record macros**
- **Save a workbook with macros**
- **Identify and use the key macro tools**
- **Navigate and discover the VBA Editor interface**
- **Run macros within Excel**
- **Manage macros**
- **Edit macros**
- **Enable macros in a workbook**
- **Manage macro security options**
- **Use macros across multiple workbooks**

Expected Duration (hours)	Expertise Level
0.6	Expert

## 36 Excel Office 365 (Windows): Creating & Editing Macros

### Overview/Description

In this course you will see how to insert procedures and start writing code. You will also see how to use objects and even create events to interact with those objects. Once you start writing code it's important to know how to identify and correct errors found in your code.

### Lesson Objectives

- **Identify the key components of a macro**
- **Create, edit and remove modules**
- **Insert procedures into your macro modules**
- **Write code in Visual Basic**
- **Declare variables and insert constants**
- **Insert objects and create object collections**
- **Insert and test operators**
- **Execute actions under conditions**
- **Create events**
- **Manage and correct macro errors**

Expected Duration (hours)	Expertise Level
0.8	Expert

## 37 Excel Office 365: Working with Macros in Excel

### Overview/Description

Excel for Office 365 also gives you the possibility to use macros within formulas. You can use macros in formulas to format text, perform calculations and even export charts to easily share or present to others.

### Lesson Objectives

- **Insert, format and remove UserForms**
- **Customize a form's size, color and alignment**
- **Program a form to perform actions**
- **Create actions to track changes in macros**
- **Insert a macro function as a formula**
- **Format text using macros**
- **Calculate formatted values with macros**
- **Export charts using macros**

Expected Duration (hours)	Expertise Level
0.6	Expert

## 38 Excel Office 365 (Windows): Sorting & Filtering Data

### Overview/Description

This 10-video course offers learners an in-depth exploration of Excel's sorting and filtering tools used to analyze data in a spreadsheet. You will learn how to control what is displayed in a data range, and how the values are organized in a worksheet. This course then demonstrates how to sort a data range by alphabetical order, and in value ranges. Learn how to include or exclude a header, and change the sort orientation from vertical to horizontal. Then learn how to create multiple sort levels to change how data are presented. You will learn how to create a custom sort list, and how to use column filters to show or hide different data values in your data range. You will learn to filter the data of a range and show values to meet specified criteria. This course demonstrates how to apply color coding to data items in a table, and how to use these codes to sort and filter data. Finally, learners observe how to create advanced filter criteria by using a separate table.

### Lesson Objectives

- **Sort data in a worksheet according to a specific data type**
- **Customize sort options when sorting data in a worksheet**
- **Sort data using multiple criteria and sort levels**
- **Create and use custom sort lists to sort data**
- **Use column filters to filter data in a worksheet**
- **Use column filters to apply multiple filters to data in a worksheet**
- **Create filter arguments using text and number data types**
- **Sort and filter data using colors applied to data**
- **Use the advanced filter tools to filter and extract data**
- **Use filter tools to hide duplicate values in a data range**

Expected Duration (hours)	Expertise Level
0.7	Intermediate



## 39 PowerPoint Office 365 (Windows): Getting Started

### Overview/Description

Learners can explore the basics of PowerPoint for Windows Office 365 to create presentations with ease. In this course, you will start by exploring its many features. Begin by learning how to access the PowerPoint application from the Windows Office ribbon. Then, explore how to use PowerPoint's title and status bars, navigate its interface, operate its tools; change slide order, zoom level, and view mode; and align slide elements with PowerPoint's rulers and grid lines. Learners will also discover how to navigate between slides and presentations; scroll between slides and select one to edit; access the browser from the slide pane, and manage multiple projects at once!

### Lesson Objectives

- Find and open the PowerPoint application
- Use the PowerPoint application
- Move between PowerPoint slides
- Change your view mode in PowerPoint
- Use the PowerPoint zoom tool
- Move between PowerPoint presentations

Expected Duration (hours)	Expertise Level
0.4	Beginner

## 40 PowerPoint Office 365 (Windows): Creating Presentations

### Overview/Description

In this 13-video course, learners can explore how to create a presentation in PowerPoint for Office 365, and finesse slides like a pro. First, observe how to create and begin editing a new document in PowerPoint. You will then explore presentation themes and templates, and how to customize them to meet your requirements. Next, learn how to add slides to a new presentation by recycling existing content. You will explore the several preset slide layouts available, and how to create your own. Learners will observe how PowerPoint's Slide Master View allows one to change the overall appearance of a presentation and make changes to multiple slides at once, and how to use it to create a template customized to one's requirements by using Slide Master View. Next, learn how to sort slides into sections to structure your presentation. You will learn how to create an outline in PowerPoint, and how to use the header and footer tools. Finally, observe how to create master slides to use multiple themes in a presentation.

### Lesson Objectives

- Create and open a presentation
- Use themes and templates to create a presentation
- Insert a new slide in a presentation
- Insert slides from an existing presentation in your presentation
- Adjust your slide layout
- Move your slides
- Create a template for your presentation
- Create sections in your presentation
- Create an outline for your presentation
- Use headers and footers in your presentation
- Use the Master mode in your presentation
- Create a Master slide template

Expected Duration (hours)	Expertise Level
0.9	Beginner

## 41 PowerPoint Office 365 (Windows): Saving Presentations

### Overview/Description

Explore ways to save, export, and share a presentation created in PowerPoint for Office 365 in this 15-video course. First, learn how to save a presentation on a PC, and in a OneDrive account. You will then learn how to share your presentation in different formats. This course demonstrates how to create a video version of a presentation by using PowerPoint. Next, observe how to create a handout version of your presentation in MS Word with thumbnail versions of each slide. You will learn how to save data on the document's author, its modification dates, and a host of other categories not stored on any slide. Continue by learning how to search your presentation for confidential or personal notes, comments, and off-slide objects that you do not want to share, and to remove them with PowerPoint tools. You will learn how to password-protect presentations. Finally, this course demonstrates how to compare multiple versions of a presentation, visualize the differences, and cycle through each change to accept or reject it.

### Lesson Objectives

- Save your presentation
- Back up and recover your presentation
- Save your presentation as a PDF
- Export your presentation
- Create a video presentation
- Create a presentation package
- Use your presentation in Word
- Check for compatibility issues in your document
- Edit your presentation properties
- Adjust the presentation print page layout
- Print your presentation
- Create an accessible presentation
- Check for personal information in your presentation
- Protect your presentation
- Compare two presentations

Expected Duration (hours)	Expertise Level
1.2	Beginner

## 42 PowerPoint Office 365 (Windows): Inserting & Manipulating Text

### Overview/Description

This 10-video course explores how to manipulate text in a PowerPoint for Office 365 presentation. You will examine some of the differences between using a word processor and PowerPoint; for example, you must create a text box to insert text. You will also learn how to use the Symbols menus to find and insert special characters. Learners will next observe how to use icons, including how to access the gallery and to insert, edit, and remove icons from a presentation. You will learn to use Undo and Redo tools, to run the spellcheck function to check both spelling and grammar in PowerPoint, and how to search for words in the entire slide show with the Find function. Continue by examining how the Replace tool is used to replace instances of a word or phrase, and how to use the replace tool for other actions, including editing or changing fonts. Finally, you will learn how to use the Smart Lookup tool to find additional information about a word in your presentation by using the Web.

### Lesson Objectives

- Insert text in your presentation
- Insert special characters in your presentation
- Insert icons in your presentation
- Undo and redo your actions in your presentation
- Configure the Spell Check function in your presentation
- Use the Spell Check function in your presentation
- Adjust the AutoCorrect options in your presentation
- Use the Find tool in your presentation
- Use the Replace tool in your presentation
- Use Smart Lookup in your presentation



Expected Duration (hours)	Expertise Level
0.7	Beginner

## 43 PowerPoint Office 365 (Windows): Formatting Presentations

### Overview/Description

Learners can explore ways in which to add, format, and organize text elements in a PowerPoint for Office 365 presentation in this 9-video course. First, you will examine how to enhance the appearance of text in a slide by using the variety of fonts available in the Font tool, and how to resize text with Text Size tools. You will learn how to adjust the position of text within a slide using the standard horizontal and vertical alignment options, and to adjust the position using the Rotate tool. Next, learn how to organize text into columns to maximize the use of space on your slides, how to choose the number of columns, and how to adjust spacing between columns. This course demonstrates how to add bullet points, adjust their size and style, and how to use numbered lists within a text box. You will learn how to customize your paragraph layout by using indent. Finally, learners will observe how to adjust line and paragraph spacing.

### Lesson Objectives

- **Change your presentation text size and font**
- **Align your presentation text**
- **Rotate your text in your presentation**
- **Organize your presentation text into columns**
- **Insert bullet points in your presentation**
- **Insert a numbered list in your presentation**
- **Create a hybrid list in your presentation**
- **Modify your paragraph indentation in your presentation**
- **Modify your line and paragraph spacing in your presentation**

Expected Duration (hours)	Expertise Level
0.7	Beginner

## 44 PowerPoint Office 365 (Windows): Enhancing Presentation Designs

### Overview/Description

This 11-video course explores ways to enhance the appearance of a presentation in PowerPoint for Office 365 by using different colors, different themes, and the design elements. Color can make a slide stand out, or a section of a slide, and here you will learn how to use the Custom Color options. You will learn how to use Draw options for annotating or drawing within a slide. Next, learn how to create customized and attractive titles by using the WordArt tool. PowerPoint themes have several predefined elements, including text font, text size, and background images or colors, and this course demonstrates how to insert each of them into your presentation. You will learn how to create your own theme, save it, and apply it to existing or new presentations; and how to browse with the Designer tool, and apply design ideas to add a new style to a presentation. Finally, this course demonstrates ways in which the Text Direction tool can be used to change how text appears on a slide.

### Lesson Objectives

- **Add color to a presentation to help elements stand out or to change the overall appearance of inserted objects**
- **Create custom colors to add to text and inserted objects**
- **Use the text direction tools to change the rotation and orientation of text**
- **Apply presentation themes**
- **Create a custom presentation theme**
- **Change your presentation slide background**
- **Create a custom background by using textiles, saved images and online sources**
- **Use the Designer tool to add style and redesign a presentation slide**
- **Access and use the Draw tools**
- **Insert and customize a WordArt title and convert existing text into a WordArt title**
- **Customize the text effects applied to a WordArt title**

Expected Duration (hours)	Expertise Level
0.8	Beginner

## 45 PowerPoint Office 365 (Windows): Using Multimedia in Presentations

### Overview/Description

Explore the graphic elements of PowerPoint for Office 365, including images, audio files, video files, hyperlinks, in this 11-video course. First, examine how to insert hyperlinks into a slide by typing the Web address or pasting it in. You will then learn how to insert images from your computer and online sources, and how to insert a screenshot. This course examines several techniques to move or crop images. You will learn to adjust the size of an image, and add formatting effects, including a colored outline. This course demonstrates how to use advanced editing tools to adjust image effects with changes to brightness, sharpness, and color. You will learn how to use the 3D Model tools to insert three-dimensional images. You will also learn how to add multimedia files, including importing them from an existing file, or by recording your own audio directly. This course demonstrates how to insert a video file, and how to edit multimedia sources in slides. Finally, learners will observe how to create a photo album in a presentation.

### Lesson Objectives

- **Insert hyperlinks to access websites, files and send emails**
- **Insert an image from an existing file or an online location**
- **Insert a screenshot from an open program or online source**
- **Modify an images position, rotation and crop**
- **Edit an images size, border and applied effects**
- **Modify an images aspects to improve its appearance**
- **Insert a 3D model from an existing file or an online source**
- **Insert an existing audio file or an audio recording**
- **Insert a file from your computer or an online source**
- **Edit a video in a presentation**
- **Create a photo album presentation**

Expected Duration (hours)	Expertise Level
0.9	Intermediate

## 46 PowerPoint Office 365 (Windows): Organizing Presentation Assets

### Overview/Description

In this 6-video course, learners can explore ways in which to enhance presentation by using basic editing capabilities in PowerPoint for Office 365. You will learn how to select items in a slide, and several ways to edit an item. You will then learn how to move items between slides by using cut, copy, and paste functions. Next, you will observe how to use the Selection pane to select specific items in a slide. You will learn to use the Clipboard, which stores the information you have selected, and keeps the formatting applied in the original item or text. This course continues by exploring several available tools in PowerPoint that can be used to organize items within a slide, including how to adjust the alignment of items, and how the slide is layered by bringing objects to the front or setting them behind other items. This course concludes by demonstrating how to group items together, and how to modify or move the entire group.

### Lesson Objectives

- **Copy and paste items within a presentation**
- **Use the paste special tools**
- **Access and use the clipboard tools**
- **Select items within a presentation**
- **Organize items in a presentation slide**
- **Group items within a presentation**



Expected Duration (hours)	Expertise Level
0.4	Intermediate

## 47 PowerPoint Office 365 (Windows): Adding Data to Presentations

### Overview/Description

In this 8-video course, learners can explore multiple possibilities available for use in presenting data from a table or another file using PowerPoint for Office 365. You will learn how to insert a table into a slide, how to edit it, how to format your table by using the Alignment tools, and how to adjust overall layouts by adding and removing columns and rows. This course demonstrates how to change a table's appearance, including changing cell background colors, and to add and modify a table's borders. You will examine PowerPoint's options for creating equations, and equations presently available in PowerPoint. Next, learn how to write your own mathematical equations by using the Ink Equation tool, and see how an equation is transcribed to display as standard text. You will learn how to insert and create Microsoft forms, such as existing forms or quizzes. You will learn to insert a chart or table from a spreadsheet program into a slide. Finally, learners observe how to embed contents from another file into a presentation.

### Lesson Objectives

- **Insert a table to display data in a presentation**
- **Edit tables by inserting, resizing and removing table elements**
- **Format a table to better display your data**
- **Insert a preset equation to display calculations in a presentation**
- **Create a custom equation within a presentation**
- **Insert and create Microsoft Forms**
- **Insert charts and tables from Excel**
- **Create a new file or insert an existing file into your presentation**

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 48 PowerPoint Office 365 (Windows): Creating Graphics & Diagrams

### Overview/Description

Explore how to create diagrams in a PowerPoint for Office 365 presentation by inserting shapes and adding SmartArt graphics, in this 10-video course. You will examine how to insert predefined shapes, and use the Shapes tool in the Drawing group to customize it, including changing its dimensions, style or adding text to it. Next, you will observe how to edit shapes, including block colors, how to apply gradients, patterns, and even interesting bitmap textures. Learn how to customize your shapes and text boxes by using the Border tool to create thicker lines, colored lines, adjust the line style, and how to apply different effects to shapes, for example, a shadow effect. You will observe how to use the SmartArt tool to create professional looking graphics for a presentation. This course demonstrates how to edit graphics by adjusting their layouts, resizing elements, and even changing the type of graphic. Finally, you will learn how to format a SmartArt graphic by changing the style or modifying the color.

### Lesson Objectives

- **Insert shapes to create a diagram**
- **Create custom shapes**
- **Add fill effects to inserted shapes**
- **Add borders to inserted shapes**
- **Add effects to inserted shapes**
- **Insert a chart**
- **Format the style of a chart**
- **Insert a SmartArt graphic into a presentation**
- **Edit a SmartArt graphic by changing the size and layout**
- **Format a SmartArt graphic by modifying the style and color**

Expected Duration (hours)	Expertise Level
0.7	Intermediate



## 49 PowerPoint Office 365 (Windows): Sharing & Collaborating on a Presentation

### Overview/Description

Explore the options for sharing a presentation in PowerPoint for Office 365 via e-mail, OneDrive, and to SharePoint, and how to access files in OneDrive directly via PowerPoint, in this 8-video course. You will examine the integrated e-mail function in PowerPoint to create new e-mails. Learners will then observe how to save and share documents on OneDrive, Microsoft's online file storage. You will learn to create and send a shareable link via e-mail to other collaborators. You will learn how to access and edit your sharing permissions for each location, and how to define, change, and remove shared document link permissions. Continue by exploring the Activity panel to view changes and actions made in a document, and how to manage a document's version history, as well as restore a previous version. You will learn how to use PowerPoint to collaborate on a presentation in real time, and view when other people edit the document. Finally, learners will be shown how to share presentations as videos with PowerPoint and Microsoft Stream.

### Lesson Objectives

- **Send a presentation as an email attachment**
- **Share your presentation via a link**
- **Manage shared link permissions**
- **Save, share and view documents on OneDrive**

Expected Duration (hours)	Expertise Level
0.5	Intermediate

## 50 PowerPoint Office 365 (Windows): Adding Animations

### Overview/Description

This 8-video course explores how to use animation to create a visually interesting presentation by using PowerPoint for Office 365. Learners can observe how to add animations to objects in slides, including shapes, images, and text boxes. You will also learn how to customize animations, to change how animation is activated, and to modify it. This course demonstrates how to use the Animations tab to add sounds, color, and text effects to your animations. You will learn to use the Create Animation tool to create a custom path animation or to insert a motion path animation from the Animation gallery. This course continues by demonstrating how the Master View can add animations to most or all of your presentation, without having to re-create the same animation multiple times, and how to use the Animation Painter to apply the same animation to multiple objects. You will learn to create transitions between slides. Finally, observe how to add smoother, more dynamic video-like transitions to your presentations by adding a Morph transition to your slides.

### Lesson Objectives

- **Add animations to your presentation**
- **Configure an animation**
- **Customize an animation**
- **Create a path animation**
- **Manage multiple animations**
- **Add, reuse & delete animations in multiple slides**
- **Create transitions between different slides**
- **Apply morph transitions to your slides**

Expected Duration (hours)	Expertise Level
0.6	Intermediate



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## 51 PowerPoint Office 365 (Windows): Preparing & Delivering Slideshows

### Overview/Description

Explore how to prepare and deliver a slide show by using PowerPoint for Office 365, in this 10-video course. First, observe how to access and activate a presentation by using the PowerPoint Slide Show mode. Then explore several tools to use when giving your presentation. You will learn how to turn your mouse into a laser pointer, to activate the Summary view, how to add subtitles in real time, and how to choose a subtitle language. Next, observe how to use the Notes Pane, and how to activate Presenter view to control your slide show. You will learn to use Annotation tools, including pen, highlighter, and erase to highlight specific content. This course demonstrates how to use PowerPoint Zoom to add slide summaries, and to navigate within your slide show. You will learn to use the Record Slide Show tool to record narration, annotations, and even timings. Finally, learners can explore uses of the Custom Slide Show tool to create multiple slide shows.

### Lesson Objectives

- Use the slide show mode to give a presentation
- Use the slide show tools to highlight key features in your presentation
- Add and view notes in your presentation
- Insert and use action buttons
- Annotate your presentation to highlight key information
- Create a Summary Zoom in your presentation
- Use the Zoom tool with a slide or section
- Using the recording tool
- Create a custom slide show presentation
- Configuring slide show mode

Expected Duration (hours)	Expertise Level
0.8	Intermediate

## 52 PowerPoint Office 365 (Windows): Configuring PowerPoint

### Overview/Description

This 5-video course explores how to configure PowerPoint for Office 365 to meet your personal style when developing a presentation. In it, you will learn how to customize the view, interface, Quick Access Toolbar, and ribbon. You will then learn how to adjust the Presentation view while editing slides. This course examines the Office tool to browse, select, and install Add-ins. Learners will observe how to customize the PowerPoint interface by choosing a different Color Scheme, by changing the background design, and how to activate and deactivate certain tools, for example, the Ruler. You will learn how to create shortcuts for tools that you frequently use by adding them to the Quick Access Toolbar. You will explore the PowerPoint ribbon, which is the location of most of the PowerPoint editing tools, how to edit the appearance of the ribbon, and how to change which Standard tabs are activated when you open PowerPoint. Finally, learners will observe how to use the Collapse tool to give more room to a slide and slide pane while editing.

### Lesson Objectives

- Adjust the presentation display view
- Install and use add-ins
- Customize the interface
- Customize the Quick Access Toolbar
- Customize the tool ribbon display

Expected Duration (hours)	Expertise Level
0.4	Intermediate

## 53 Word Office 365 (Windows): Opening & Setting Up

### Overview/Description

In this 8-video course, learners can explore the basics of Microsoft Word, the word processing program in Word for Office 365. If you have no experience with Word, this is the perfect course to choose when you begin using the program. First, learn how to open the application on your desktop from the Windows 10 Search bar, Start menu, and taskbar. You will explore many of the tools and functions available in Word, and learn how to access the Ribbon, how to use the file backstage view, the Quick Access toolbar, and the Status bar. You will learn how to navigate in a word document by using the scroll bar, and other navigation shortcuts. Next, you will learn to use the View Mode, which will display a document in several ways, and has views that focus on reading text, a web view, and views for planning and drafting. Finally, this course examines how to use the Navigation pane to move through a document, jump to specific headings or pages, and to search for keywords.

### Lesson Objectives

- Find and open the application
- Use the application
- Scroll through the document
- Use the zoom function in your document
- Use the different view modes in your document
- Use the Read and Focus Mode in your application
- Use the document's Navigation pane
- Work on multiple documents

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 54 Word Office 365 (Windows): Creating, Opening & Saving Documents

### Overview/Description

Explore the basics of how to create, save, and open documents in Word for Office 365. During this course you will learn how to create and modify documents. Then, explore how to use Word's templates to create documents such as reports, letters, and resumes. You will also observe several ways to save your document, including on your computer and on OneDrive. Continue by learning how to save a document as a PDF. You will learn how to organize a document's margins, orientation, choose the paper size, preview, and print a document. Learners will then observe how Word provides statistics for a document, including word count, and the number of lines or paragraphs in a document. Learn how to protect documents, and restrict editing. Finally, you will learn how to manage a document's version history, and how to recover unsaved documents.

### Lesson Objectives

- Create and open a Microsoft Word document
- Use document templates in Microsoft Word
- Create and edit a document templates in Microsoft Word
- Save a Word document
- Save a Microsoft Word document as a PDF
- Recover a previous version of your Microsoft Word document
- Prepare to print your Microsoft Word document
- Print your Microsoft Word document
- Access your Microsoft Word document statistics
- Modify your Microsoft Word document properties
- Check your Microsoft Word document for compatibility issues
- Create an accessible Word document
- Use the Read Aloud tool in Microsoft Word
- Protect your Microsoft Word document
- Adjust your Microsoft Word document's protection settings
- Manage your Microsoft Word document's version history

Expected Duration (hours)	Expertise Level
1.1	Beginner



## 55 Word for Office 365: Editing Documents

### Overview/Description

This 17-video course explores Word for Office 365's intuitive text tools for typing, manipulating, and checking text. Here you will learn how to configure settings for more efficient typing, and how to insert, edit, and format text boxes. First, learn how to use the special character menu. Examine how Word Properties include information about the author, tags, or the last time the document was modified. You will then learn how to reorder text or paragraphs with cutting, copying, and pasting tools. If you often use the same items or groups of items in your documents, you will learn how to save them to your AutoText and Quick Parts galleries, and to quickly insert them into future documents. Word keeps a log of what has been recently typed, so you will learn how to use the redo and undo functions. You will learn to use the Editor tool to proofread and correct your document, and check the grammar and spelling. Finally, learners will examine how the AutoCorrect feature will correct frequently used vocabulary and symbols.

### Lesson Objectives

- **Insert text in your document**
- **Insert text more efficiently in your document**
- **Insert a text box in your document**
- **Insert special characters in your document**
- **Add to your document properties**
- **Select text manually in your document**
- **Select text automatically in your document**
- **Cut, copy and paste in your document**
- **Move text in your document**
- **Use Word's paste options in your document**
- **Use the AutoText function in your document**
- **Undo and redo your actions in your document**
- **Proof and correct your document**
- **Use AutoCorrect in your document**
- **Configure the AutoCorrect settings for your document**
- **Use the spell check in your document**
- **Configure the spell check for your document**

Expected Duration (hours)	Expertise Level
1.2	Beginner

## 56 Word Office 365 (Windows): Formatting Documents

### Overview/Description

Learners can explore how to personalize a document by using Word for Office 365's formatting tools in this 20-video course. Learn how to change the font, change its size, and how to bold, underline and italicize words. You will learn an easy way to change case with the case tool, how to use alignment options, and change paragraph spacing in Word. Next, you will learn how to use Word's text effects, including how to add shadows, reflections, and glow effects. The course demonstrates how to use the bullet points tool, how to use the default bullet point and numbers style, and how to create a custom multilevel list style. You will learn how to organize text in columns, and how to insert a table in a document. The course continues by demonstrating how to use tools to visualize formatting and style settings, and how to use different styles in a document. Learners will observe how to use preset styles in WordArt and SmartArt tools. Finally, observe how to use Themes in Word.

### Lesson Objectives

- **Change your document text's font and size**
- **Use colors and highlighting tools in your document**
- **Use upper and lower case tools in your document**
- **Align your document's text**
- **Add text effects in your document**
- **Modify your document's paragraph spacing**
- **Insert bullet points in your document**
- **Create your own list style for your document**
- **Organize your text into columns in your document**
- **Use tab stops in your document**
- **Use the document's hyphenation tool**
- **Use text styles in your document**
- **Create your own text style for your document**
- **Create style sets for your document**
- **Inspect your document's text formatting**
- **Import styles from another document into your document**
- **Create a title with WordArt in your document**
- **Use different WordArt effects in your document**
- **Change the fill style of a shape in your document**
- **Change your document's theme**

Expected Duration (hours)	Expertise Level
1.3	Beginner

## 57 Word Office 365 (Windows): Using Find & Replace Tools

### Overview/Description

This 7-video course explores several capabilities—word, symbol, or number searching, and replacing—available in Word for Office 365. Learners will observe how to use the Navigation Pane to find words and phrases in a document, and that search will be clearly displayed. You will also learn how to navigate between pages or lines with the Go To tool. Next, the course demonstrates Advanced Search options in Word's Editing tool set, which allows you to specify the word's case and format. Next, learners watch demonstrations of how to access the Find tool to use wildcard codes to perform approximate searches in Word, including how to search for variable spellings, specific prefixes, and even half- complete numbers. Continue by learning how to use the Find and Replace tool to replace all instances of chosen words. You will observe how the Replace tool allows you to change formatting of text without having to manually select and reformat text. Finally, learners examine how to change or replace Symbols or special characters in a document.

### Lesson Objectives

- **Jump to a location in your document**
- **Find words and phrases in a document**
- **Use the advanced search tools in your document**
- **Use the Find and Replace tool in your document**
- **Perform wildcard searches in your document**
- **Replace text formats in your document**
- **Replace special characters in your document**

Expected Duration (hours)	Expertise Level
0.4	Beginner

## 58 Word Office 365 (Windows): Sharing & Collaborating on a Document

### Overview/Description

Learners can explore the many ways in which users can collaborate on a document by using Word for Office 365 in this 10-video course. You will learn how to use the e-mail function in Word, which automatically creates a new e-mail and attaches your document. You will also learn how to directly access OneDrive, Microsoft's Cloud service that allows you to save a document online. Next, observe how to use links to send and share documents, and how to set permissions for who can access that document. This course explores how to use the comment tool in Word to communicate with multiple users working on the same document, and use the Word tool to track changes, highlight changes in text, review changes, and accept or reject edits. You will continue by learning how to use Inking tools in Word with Draw tab to add artistic elements to a document. Finally, you will learn how to use Word tools to compare two versions of a document, merge them, and decide on how modifications are integrated.

### Lesson Objectives

- **Send your document via email**
- **Share a document via OneDrive**
- **Share your document via a link**
- **Manage link access and permissions for your document**
- **Comment on a document**
- **Collaborate on a document**
- **Follow and track document changes**
- **Annotate your document**
- **Annotate your document**
- **Merge multiple documents**

Expected Duration (hours)	Expertise Level
0.6	Beginner



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## 59 Word Office 365 (Windows): Structuring Documents

### Overview/Description

This 8-video course explores how to organize a document in Word for Office for 365 by using sections, headers, footers, and page numbers. You will learn how to use page breaks to move text to the top of the next page, and how to use the Section tool to create separate areas or sections in your document that can be organized and formatted individually. Next, you will learn how to insert headers and footers in a document. Then learn how to insert page numbers into a header or footer, how to change the placement of the page numbers, how to customize the style of page numbers, and how to insert text on the same line as the page number. Word automatically inserts all headers and footers into every page of a document. You will learn to create borders around paragraphs, and adjust the style, color, thickness, and the location. Finally, learners will observe how to create borders for an entire page or document in Word.

### Lesson Objectives

- **Insert a page break in your document**
- **Create a formatting section in your document**
- **Insert page numbers in your document**
- **Insert predefined headers and footers in your document**
- **Create custom headers and footers in your document**
- **Save and re-use a header in your document**
- **Customize your paragraph outlines and color in your document**
- **Customize your page outline and color in your document**

Expected Duration (hours)	Expertise Level
0.5	Intermediate

## 60 Word Office 365 (Windows): Shaping Documents

### Overview/Description

Learners can explore the advanced reference tools available in Word for Office 365 in this 10-video course. You will learn how to use cover pages, tables of contents, and Quick Parts to help readers find information in your documents. You will then examine the range of cover page templates available in Word. Learners continue by examining how to properly format document titles and subtitles, and how to create a table of contents without having to insert the information manually. You will learn to create an index in your document, to use the Mark Entry tool to mark your index entries, and use Word to generate and update your index. Next, learn how to add bookmarks, and link them to specified sections in the document, and how to cross-reference to link different parts of the same document. You will observe how to create a table of figures to keep track of captioned illustrations. Finally, learn how to use the Outline mode and the Outline view in Word.

### Lesson Objectives

- **Insert a cover page for your document**
- **Create a table of contents in your document**
- **Customize your table of contents in your document**
- **Create an index in your document**
- **Insert bookmarks in your document**
- **Insert a caption in your document**
- **Create a table of figures in your document**
- **Use the cross reference function in your document**
- **Plan and restructure your document**
- **Create a master document**

Expected Duration (hours)	Expertise Level
0.7	Intermediate

## 61 Word Office 365 (Windows): Illustrating Documents

### Overview/Description

This 11-video course explores the use of images and illustrations in a document in Word for Office 365. You will learn how to insert an image from the Internet or a file into word documents, then learn how to take screenshots of parts of a document by using the Screen Clipping tool. You will also explore a number of icons available in Word to insert into a document. Next, learners will examine several ways in which images, figures, or icons can be surrounded by text. Learn how to perform basic editing on images to adjust brightness, contrast, and coloring; and to use the Picture Styles toolset to create frames or borders about images. The course demonstrates how to use hyperlinks to access websites, e-mail drafts, and other documents. Continue by learning how to insert and embed videos in a document from online sources, how to insert 3D models, and reformat the document. Finally, you will observe how to insert a watermark onto a page, and how to add graphics as watermarks.

### Lesson Objectives

- **Insert images in your document**
- **Take a screenshot for your document**
- **Insert icons in your document**
- **Adjust your text wrapping options in your document**
- **Use image styles in your document**
- **Edit an inserted image in your document**
- **Insert hyperlinks in your document**
- **Insert a video into a document**
- **Insert a 3D Model into your document**
- **Format a 3D Model in your document**
- **Insert a watermark in your document**

Expected Duration (hours)	Expertise Level
0.7	Intermediate

## 62 Word Office 365 (Windows): Creating Graphics & Diagrams

### Overview/Description

Learners can explore graphic tools available in Word for Office 365 to create charts and diagrams in this 8-video course. You will learn how to create custom charts and flow charts with shapes, using Word's preset charts and shapes, and how to custom freehand a shape. Then you will learn how to create, format, and edit custom shapes. You will learn how to arrange individual items on a page manually, or align several items at once. Next, the course demonstrates how to use the Selection Pane to organize objects in a document, and to hide or show certain objects. Then learn how to use a drawing canvas to group several objects or shapes, and how the canvas can be treated as one large object. The course demonstrates for learners how the SmartArt tool can be used to add professional-looking graphics to documents. You will learn how to customize shapes, and how to create a graphic that can display names, roles, and pictures. Finally, learn how to change positioning, colors, and styles of graphics.

### Lesson Objectives

- **Creating a diagram with shapes in your document**
- **Create a custom shape in your document**
- **Arrange items on a page in your document**
- **Use the document's selection pane**
- **Create a drawing canvas in your document**
- **Create and insert a SmartArt graphic**
- **Modify a SmartArt graphic in your document**
- **Format a SmartArt graphic in your document**

Expected Duration (hours)	Expertise Level
0.5	Intermediate



## 63 Word Office 365 (Windows): Adding Data & Calculations

### Overview/Description

This 8-video course explores how to enrich a Word for Office 365 document by inserting content, charts, equations, and how to add data from an Excel spreadsheet. First, you will learn how to access the AutoText and Quick Parts galleries to save and easily insert frequently used items or groups of items into other documents. You will learn to use AutoText for smaller items like names or numbers, while Quick Parts is used for larger items like graphics. Then learners will observe how to insert equations directly into Word by copying an equation from an online source, inserting it from a preset, or by creating one's own equation. You will learn how to customize a chart, and manage the data table without using a separate spreadsheet application. Learners will observe how to customize a chart by using Word's presets, alter individual elements to give charts a personal style, and to label charts to contextualize data and statistics. Finally, you will learn how to insert charts and tables from Excel into Word.

### Lesson Objectives

- Use Quick Parts to store pieces of content that can be quickly inserted into a document
- Insert content from existing files
- Insert an equation
- Create an equation
- Insert a chart
- Format a chart
- Label a chart
- Insert Excel items into a document

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 64 Word Office 365 (Windows): Using Table Tools

### Overview/Description

In this 9-video course, learners can explore how to structure data in a Word for Office 365 document using table tools. You will learn to create a table from scratch, convert prepared text into a table, and import a table. The course demonstrates how to modify a table by adding rows and columns. Once you have inserted a table, you will then learn how to change its appearance, and how data can be formatted like any other text with Word's formatting tools. The course continues by demonstrating how to add and adjust the width, style, and color of borders. You will learn how to apply color to individual cells or tables, and how to adjust alignment settings, move tables, and change how text interacts with a table. If a table contains a large amount of data, you will learn to sort it according to different criteria to make it visually easier to read and understand. Finally, the course demonstrates how Word allows you to perform calculations within the table you inserted.

### Lesson Objectives

- Create a table to insert and organize data
- Insert or remove items from a table
- Resize a table's rows and columns
- Format text in a table
- Modify the border of a table
- Apply color to a table
- Modify the layout of a table
- Sort data in a table
- Perform calculations in a table

Expected Duration (hours)	Expertise Level
0.6	Intermediate



## 65 Word Office 365 (Windows): Using Research Tools

### Overview/Description

Learners can explore Smart Lookup, a suite of tools available in Word for Office 365 to organize your information in a document, in this 10-video course. You will learn how to use Smart Lookup to research a word, automatically have Bing provide you with the definition, find more information, and extra content about that word. Next, you will learn how to create a bibliography, and insert citations by using the Citations and Bibliography toolset. The course then demonstrates how to create a database of articles, books, and journals which can then be used to insert sources quickly and efficiently. Learn how to use the built-in translator tool, which will translate individual words, full sections, and even whole documents. You will learn how to insert and format line numbers. Then learn how to use the footnotes tool, and the footnote style outbox launcher to format, customize, and manage footnotes that will be included in a document. Finally, the course demonstrates how to insert endnotes, and how to convert endnotes into footnotes.

### Lesson Objectives

- Use the Smart Lookup tool to define and research text within a document
- Use the voice dictation tool to insert text into a document
- Use the Researcher tool to find topics and sources for a document
- Insert citations to create a bibliography
- Manage citations in a bibliography
- Translate a document
- Insert line numbers
- Insert footnotes
- Customize inserted footnotes
- Insert endnotes

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 66 Word Office 365 (Windows): Creating Forms

### Overview/Description

This 5-video course explores how to use and reuse forms in Word for Office 365. Word has thousands of pre-formatted forms available for download, and learners will observe how to use them to create forms for their specific requirements. You will learn how to use the Navigation Pane to create a form, for instance, for a quotation, by using Word's built-in templates. Continue by learning how to save a form you have customized as a template to use at a future date. You will then learn how to create drop-down menus within a word document, for example, if you are creating a survey. The document with the drop-down menu will be available to anyone who has been sent the document. The course demonstrates how to use multiple choice lists in a form, and how to customize the appearance of the list. Finally, if you are sharing a form or survey, you will learn how to protect it from unauthorized changes, which will allow users to add answers, but not to modify questions or other elements.

### Lesson Objectives

- Use Office form templates
- Create a form template
- Create a drop-down menu in a document
- Create a multiple choice checkbox list in a document
- Protect a form document with the editing restriction tools

Expected Duration (hours)	Expertise Level
0.3	Intermediate



## 67 Word Office 365 (Windows): Creating Bulk Mailings

### Overview/Description

Learners can explore bulk mail tools available in Word for Office 365 in this 9-video course. Learn how to use the envelope creation tool to insert addresses, format the style, and how to place addresses on envelopes. You will also learn how to create address labels, and how to change the margins and dimensions. Next, observe how to use the Mail Merge function, which allows data from a mailing list to be incorporated into a document when you send bulk e-mails or letters. You will learn how to create a list of addresses and contact information in Word for a mail merge document, and to import a mailing list from an Excel spreadsheet or MS Access file to use in a mail merge. You will learn to edit, sort data, filter, and search your data in a contact list. You will learn to create bulk e-mails or letters with multiple recipients. Finally, the course demonstrates how to create simple rules to change elements, for example, a greeting in a letter.

### Lesson Objectives

- **Create an envelope**
- **Create a label**
- **Create a mailing list**
- **Import a mailing list to a document**
- **Edit a mailing list**
- **Refine a mailing list**
- **Create a mailing merge document**
- **Print and email a mail merge document**
- **Configure a mail merge document**

Expected Duration (hours)	Expertise Level
0.5	Intermediate

## 68 Word Office 365 (Windows): Using the Publishing Tools

### Overview/Description

This 5-video course explores how to create a resume or CV, customize it, and add it to LinkedIn directly from Word for Office 365. You will learn how to use the Word's CV Assistant, which includes suggested skills, and which provides real work experience summaries from LinkedIn CV's. You will next learn how to transform documents into a Sway web page, to create presentations with interactive elements, and to save documents as webpages. Learners can explore filtered webpages, and how to keep the content, style instructions, and other key information in a document, which saves space. You will learn how to create a blog with Word's Blog tools, Blog Post and Insert. Next, you will explore how the blog post tab contains tools for working with your blog, working with a clipboard, entering basic text, and applying styles. Observe how the Insert tab enables you to add photos, hyperlinks, and other items to your post. Finally, this course examines how to search for Add-ins, and how to install, deactivate, and delete Add-ins.

### Lesson Objectives

- **Create a resume with the LinkedIn Resume Assistant tool**
- **Transform a document into a Sway web page**
- **Convert your document into a webpage**
- **Create a blog post**
- **Install and use add-ins**

Expected Duration (hours)	Expertise Level
0.3	Intermediate

## 69 Word Office 365 (Windows): Configuring the Application

### Overview/Description

Explore ways to customize every aspect of the Word for Office 365 application, from the interface and language, to input and save options, in this 9-video course. First, learn how to manage security preferences, connect services, and application updates from your account page. Next, you will explore Add-ins, extensions that can be installed to increase productivity, and how to install, deactivate, and delete Add-ins. Then you will examine some of Word's advanced options to modify many of the program's display settings. You will examine how to customize Word's user and input behavior, including the Mini Toolbar, and instant previews to improve your performance. When working with or switching between languages, you will learn how to access and update language settings in Word. Then learn how to adjust print options to print a document in draft form, adjust scale settings, and how to print a double-sided document. Finally, you will examine the Office ribbon, the most important element in Word, which has all the tools used when creating a document.

### Lesson Objectives

- **Manage your account from Word**
- **Customize your documents view settings**
- **Customize the Word interface**
- **Adjust the Word input options**
- **Manage the language settings in Word**
- **Adjust the Word save options**
- **Adjust print options**
- **Customize the Quick Access Toolbar**
- **Customize the ribbon**

Expected Duration (hours)	Expertise Level
0.5	Intermediate

## 70 Adobe Photoshop CC 2015 Basics

### Overview/Description

This course introduces the navigational features of Adobe Photoshop CC 2015 including the toolbars and tabs, workspaces, and rulers and guides. You'll learn about using basic tools and some of the new features.

### Lesson Objectives

- **Work with the toolbars in Adobe Photoshop CC 2015**
- **Work with the tabbed interfaces in Adobe Photoshop CC 2015**
- **Configure the workspaces in Adobe Photoshop CC 2015**
- **Set preferences in Adobe Photoshop CC 2015**
- **Navigate stock libraries in Adobe Photoshop CC 2015**
- **Use the artboards in Adobe Photoshop CC 2015**
- **Use the new export options in Adobe Photoshop CC 2015**
- **Preview the designs on devices in Adobe Photoshop CC 2015**
- **Work with pixels in Adobe Photoshop CC 2015**
- **Work with anti-aliasing in Adobe Photoshop CC 2015**
- **Use the rulers and guides in Adobe Photoshop CC 2015**
- **Align selections in Adobe Photoshop CC 2015**
- **Resize the images in Adobe Photoshop CC 2015**
- **Practice working with the Adobe Photoshop CC 2015 interface**



Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	0.9	Beginner

## 71 Adobe Photoshop CC 2015: File Types and Color Editing

### Overview/Description

This course introduces options for working with files, navigation, and color in Adobe Photoshop CC 2015. You'll learn essential actions for manipulating images such as gradients, duotones, color replacement, and the Mixer Brush tool.

### Lesson Objectives

- **Manage your account from Word**
- **Customize your documents view settings**
- **Customize the Word interface**
- **Adjust the Word input options**
- **Manage the language settings in Word**
- **Adjust the Word save options**
- **Adjust print options**
- **Customize the Quick Access Toolbar**
- **Customize the ribbon**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	0.9	Beginner

## 72 Adobe Photoshop CC 2015: Selection Tools and Techniques

### Overview/Description

This course introduces selection tools and techniques in Adobe Photoshop CC 2015. You'll learn about marquee options such as marquee and move tools and marquee selection techniques.

### Lesson Objectives

- **Make simple marquee selections in Adobe Photoshop CC 2015**
- **Isolate an object and draw around it in Adobe Photoshop CC 2015**
- **Use the Move Tool in Adobe Photoshop CC 2015**
- **Nudge selections in Adobe Photoshop CC 2015**
- **Make irregular marquee selections in Adobe Photoshop CC 2015**
- **Use the Magic Wand Tool in Adobe Photoshop CC 2015**
- **Use the Quick Selection Tool in Adobe Photoshop CC 2015**
- **Isolate an object and draw around it in Adobe Photoshop CC 2015**
- **Use multiple selection techniques in Adobe Photoshop CC 2015**
- **Swap backgrounds in Adobe Photoshop CC 2015**
- **Use the Lasso Tool in Adobe Photoshop CC 2015**
- **Use the Polygonal Lasso Tool in Adobe Photoshop CC 2015**
- **Use the Magnetic Lasso Tool in Adobe Photoshop CC 2015**
- **Practice selection techniques in Adobe Photoshop CC 2015**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	0.5	Beginner

## 73 Adobe Photoshop CC 2015: Layers and Type

### Overview/Description

This course introduces layers and type in Adobe Photoshop CC 2015. You'll learn about adjustment layers, layer masks and styles, as well as how to rasterize type.

### Lesson Objectives

- **Navigate layers in Adobe Photoshop CC 2015**
- **Use adjustment layers in Adobe Photoshop CC 2015**
- **Isolate a layer object and create transparency in Adobe Photoshop CC 2015**
- **Use layer styles in Adobe Photoshop CC 2015**
- **Use layer masks in Adobe Photoshop CC 2015**
- **Drag and drop from other documents in Adobe Photoshop CC 2015**
- **Apply blending modes in Adobe Photoshop CC 2015**
- **Add type to images in Adobe Photoshop CC 2015**
- **Edit paragraph text in Adobe Photoshop CC 2015**
- **Work with paragraph styles in Adobe Photoshop CC 2015**
- **Use the typesetting features in Adobe Photoshop CC 2015**
- **Create warped type in Adobe Photoshop CC 2015**
- **Use text layers and rasterize type in Adobe Photoshop CC 2015**
- **Use text layers to modify other layers in Adobe Photoshop CC 2015**
- **Practice layer manipulation with Adobe Photoshop CC 2015**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	1.0	Beginner

## 74 Adobe Photoshop CC 2015 Enhancement Tools and Techniques

### Overview/Description

This course introduces some of the editing options and features available in Adobe Photoshop CC 2015. You'll learn about tools and effects for object enhancement including transparency, drop shadows, glow effects, reflection effects, lens flares, circular insets, and pattern stamps.

### Lesson Objectives

- **Place images in Adobe Photoshop CC 2015**
- **Resample images in Adobe Photoshop CC 2015**
- **Crop images in Adobe Photoshop CC 2015**
- **Use Free Transform in Adobe Photoshop CC 2015**
- **Use the Adobe Photoshop CC 2015 History palette**
- **Create transparency in Adobe Photoshop CC 2015**
- **Create a drop shadow in Adobe Photoshop CC 2015**
- **Create a glow effect in Adobe Photoshop CC 2015**
- **Create a reflection effect in Adobe Photoshop CC 2015**
- **Create a lens flare in Adobe Photoshop CC 2015**
- **Create a circular inset in Adobe Photoshop CC 2015**
- **Use the Paste Into function in Adobe Photoshop CC 2015**
- **Use the Brush tool in Adobe Photoshop CC 2015**
- **Use the Pencil tool in Adobe Photoshop CC 2015**
- **Change brush sizes on the fly in Adobe Photoshop CC 2015**
- **Practice working with tools in Adobe Photoshop CC 2015**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	1.0	Beginner



## 75 Adobe Photoshop CC 2015 Cloning and Editing

### Overview/Description

This course introduces some of the transformational features and effects available in Adobe Photoshop CC 2015, including cloning, History Brush tools, Lasso tools, refining, and slicing.

### Lesson Objectives

- Use the Eraser Tool in Adobe Photoshop CC 2015
- Use the Background Eraser Tool in Adobe Photoshop CC 2015
- Use the Magic Eraser Tool in Adobe Photoshop CC 2015
- Use the Clone Stamp Tool in Adobe Photoshop CC 2015
- Clone to a different layer in Adobe Photoshop CC 2015
- Clone from different image files in Adobe Photoshop CC 2015
- Isolate and clone objects in Adobe Photoshop CC 2015
- Remove image objects in Adobe Photoshop CC 2015
- Use Pattern Stamp in Adobe Photoshop CC 2015
- Use the History Brush Tool in Adobe Photoshop CC 2015
- Use the Refine Edge Tool in Adobe Photoshop CC 2015
- Use the Slice Tool in Adobe Photoshop CC 2015
- Use cloning techniques in Adobe Photoshop CC 2015

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	0.9	Beginner

## 76 Adobe Photoshop CC 2015 Paths and Techniques

### Overview/Description

This course introduces how to work with paths and editing options in Adobe Photoshop CC 2015. You'll learn about feathering effects, healing tools, and how to turn a selection into a path. The course also covers Live Shapes and coloring techniques.

### Lesson Objectives

- Use the Pen tool in Adobe Photoshop CC 2015
- Use the Freeform Pen tool in Adobe Photoshop CC 2015
- Use the Magnetic Pen tool in Adobe Photoshop CC 2015
- Make a selection with the Pen tool in Adobe Photoshop CC 2015
- Convert a selection into a path in Adobe Photoshop CC 2015
- Use a path to create a mask in Adobe Photoshop CC 2015
- Use Live Shapes in Adobe Photoshop CC 2015
- Use the Live Shapes properties in Adobe Photoshop CC 2015
- Use the Feathering feature in Adobe Photoshop CC 2015
- Use the Healing Brush tool in Adobe Photoshop CC 2015
- Use the Patch tool in Adobe Photoshop CC 2015
- Colorize parts of a black and white image in Adobe Photoshop CC 2015
- Change object color in Adobe Photoshop CC 2015
- Use the Dodge and Burn tools in Adobe Photoshop CC 2015
- Work with paths in Adobe Photoshop CC 2015

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in an overview of Adobe Photoshop CC 2015 tools and features	0.5	Beginner



**Click course title for link to description page.**

1.	Developing Azure and Web Services: Introduction
2.	Developing Azure and Web Services: Entity Framework
3.	Developing Azure and Web Services: IIS & Web Services
4.	Developing Azure and Web Services: Consuming Services
5.	Developing Azure and Web Services: Azure Services
6.	Developing Azure and Web Services: Azure Storage
7.	Developing Azure and Web Services: Messaging, Security, and Troubleshooting
8.	Developing Azure and Web Services: Advanced Deployment
9.	Developing Azure and Web Services: Diagnostics, Debugging, and ACS
10.	Developing Azure and Web Services: Azure Scalability
11.	Developing Azure and Web Services: API Management and Monitoring
12.	Developing Azure and Web Services: Deployment Strategy
13.	Developing Azure and Web Services: Configuring Web Applications for Deployment
14.	Developing Azure and Web Services: Working with Assemblies
15.	Developing Azure and Web Services: Web API Services
16.	Developing Azure and Web Services: Hosting Web APIs
17.	Developing Azure and Web Services: Managing Data
18.	Developing Azure & Web Services: WCF Transactions & Services
19.	Java Certified Foundations Associate: Development Environment
20.	Java Certified Foundations Associate: Coding Best Practices
21.	Java Certified Foundations Associate: Object-oriented Programming
22.	Java Certified Foundations Associate: Design Patterns
23.	Java Certified Foundations Associate: Development Basics
24.	Java Certified Foundations Associate: Basic Elements
25.	Java Certified Foundations Associate: Java Operators
26.	Java Certified Foundations Associate: Java Strings
27.	Java Certified Foundations Associate: Math & Random Classes
28.	Java Certified Foundations Associate: Decision Statements
29.	Java Certified Foundations Associate: Looping Statements
30.	Java Certified Foundations Associate: Debugging & Exception Handling
31.	Java Certified Foundations Associate: Arrays & Array Lists
32.	Java Certified Foundations Associate: Classes & Constructors
33.	Java Certified Foundations Associate: Data Types
34.	Java Certified Foundations Associate: Java Methods
35.	Java Certified Foundations Associate: Concepts & Features

36.	Java Certified Foundations Associate: Development Environment
37.	Java Certified Foundations Associate: Coding Best Practices
38.	Java Certified Foundations Associate: Object-oriented Programming
39.	Java Certified Foundations Associate: Design Patterns
40.	Java Certified Foundations Associate: Development Basics
41.	Java Certified Foundations Associate: Basic Elements
42.	Java Certified Foundations Associate: Java Operators
43.	Java Certified Foundations Associate: Java Strings
44.	Java Certified Foundations Associate: Math & Random Classes
45.	Java Certified Foundations Associate: Decision Statements
46.	Java Certified Foundations Associate: Looping Statements
47.	Java Certified Foundations Associate: Debugging & Exception Handling
48.	Java Certified Foundations Associate: Arrays & ArrayLists
49.	Java Certified Foundations Associate: Classes & Constructors
50.	Java Certified Foundations Associate: Data Types
51.	Java Certified Foundations Associate: Java Methods
52.	Programming Fundamentals
53.	Programming Techniques
54.	Developing Windows and Web Applications
55.	Object-oriented Programming Fundamentals
56.	Windows Store Applications and Databases
57.	Fundamentals of C++ Programming
58.	Data Types, Modifiers, Operators, and Flow Control
59.	Functions, References, Exceptions Strings & Namespaces
60.	C++ Classes
61.	Classes, Functions, and Object-oriented Programming
62.	C++ Templates and Containers
63.	C++ Standard Template Library Algorithms and Operations
64.	Information Security: Hardened Security Topologies
65.	Information Security: Continual Infrastructure Testing
66.	Information Security: Security Governance
67.	Information Security: Honeypots
68.	Information Security: Pen Testing
69.	Information Security: APT Defenses
70.	Information Security: NACs & Gateways



71.	Information Security: Subnetting & DNS for Security Architects
72.	Information Security: Securing Networking Protocols
73.	Ethical Hacker: Account Creation
74.	Ethical Hacker: Risk Assessment
75.	Ethical Hacker: Incident Response
76.	Ethical Hacker: Security Standards
77.	Ethical Hacker: Secure Technology & Applications
78.	Ethical Hacker: Scanning
79.	Ethical Hacker: Hacking Techniques
80.	Malware Removal: Identifying Malware Types & Classification Approaches
81.	Malware Removal: Analyzing an Infected System
82.	Malware Removal: Remediate an Infected System
83.	Malware Removal: Reporting Findings & Preventing Future Infections
84.	Security Risks: Key Risk Terms & Concepts
85.	Security Risks: Performing Security Risk Identification
86.	Security Risks: Performing Security Risk Assessments
87.	Security Risks: Planning for Security Risk Management

## 1 Developing Azure and Web Services: Introduction

### Overview/Description

Web services provide a cloud environment for building distributed apps. Explore distributed apps, how data can be accessed, and how services work.

### Lesson Objectives

- Describe and define the characteristics of a distributed application and the reasons for creating them
- Describe the types of computing strategies that can be used to host a service in the cloud
- Recognize and list the advantages and benefits of cloud computing
- Identify the computing strategies and features provided by the Microsoft Azure cloud computing solution
- Distinguish between the different cloud service components offered by Azure
- Describe the technologies and storage strategies that can be used to store and access data
- Describe data access technologies, including ADO.NET, Entity Framework, WCF Data Services, and Azure Cosmos DB
- Compare the features and functionality of the ASP.NET Web API to WCF
- Identify the data access features provided in the .NET Framework
- Describe the low-level ADO.NET data access API in the .NET framework
- Create and configure a data provider programmatically
- Describe HTTP and how it facilitates a simple request and response for message handling
- Identify the parts of a URI and the action verbs that can make up an HTTP transaction
- Work with the HTTP header and media types for the Content-Type header
- Describe how the Representational State Transfer (REST) architecture works
- Describe how WCF can be used to create HTTP services
- Recognize the differences between ADO.NET, Entity, WCF Services, and Azure services
- Describe the differences and uses for ADO.NET, ASP.NET Web API, WCF, and the Azure platform

Expected Duration (hours)	Expertise Level
1.1	Expert

## 2 Developing Azure and Web Services: Entity Framework

### Overview/Description

Entity Framework is an object relational mapper (ORM) and uses an object-oriented representation for data. Explore Entity and the operations it provides to make working with data easier.

### Lesson Objectives

- Describe the need for object relational mappers and the development approaches including database first, model first, and code first
- Create and configure a DbContext and query the database using the DbContext class
- Use Data Annotations to manually map classes to database schema objects
- Describe the Entity methods for mapping an OOP environment to database tables
- Use the Fluent API to map classes to tables
- Work with data model schema definition languages to model data
- Define LINQ and how it interacts with SQL and Entity
- Use LINQ to Entities to query a database
- Perform a query against a database using Entity SQL
- Build a query that uses deferred execution
- Implement lazy loading and eager loading
- Creating and running compiled queries
- Execute SQL statements directly using Entity and return objects or scalar values
- Perform Create, Read, Update, and Delete operations using Entity
- Use Change Tracking with Entity to monitor if an object has changed
- Use Transactions and the TransactionScope class to group operations
- Log and track queries and commands sent to a database
- Implement Entity Framework using MySQL
- Implement Entity Framework using SQLite
- Designing strategy to target multiple databases
- Handling ON DUPLICATE KEY
- Manipulate data and data models using the Entity Framework

Expected Duration (hours)	Expertise Level
2.0	Expert

## 3 Developing Azure and Web Services: IIS & Web Services

### Overview/Description

When developing a distributed app that must be run locally, IIS is available and can be configured to scale and run web services. Explore IIS and how to create a web service.

### Lesson Objectives

- **Recognize the benefits and core capabilities of IIS**
- **Install and configure IIS for hosting web apps**
- **Create and host an ASP.NET web app**
- **Use OWIN to create and host a simple web app**
- **Configure and use logs to troubleshoot problems with IIS**
- **Use performance counters to troubleshoot IIS at the worker and application levels**
- **Distinguish between synchronous and asynchronous operations**
- **Perform synchronous operations using ADO.NET basic objects and readers**
- **Perform an asynchronous operation with ADO.NET**
- **Use asynchronous operations with Entity Framework**
- **Design and describe a Web API service and how routing works**
- **Create routing rules and use the Routing Tables**
- **Create a controller using Action methods**
- **Bind parameters to Request Messages in a Controller**
- **Use SignalR to implement WebSockets to create a real-time web app**
- **Manage IIS, troubleshoot IIS, and create a web service**

Expected Duration (hours)	Expertise Level
1.1	Expert

## 4 Developing Azure and Web Services: Consuming Services

### Overview/Description

Many web services use ASP.NET to handle data and CRUD operations by using OData. Explore ASP.NET, the ASP.NET Pipeline, and the OData protocol.

### Lesson Objectives

- **Use JavaScript to synchronously and asynchronously request XML or JSON content**
- **Use the HttpClient to consume a web service from within a .NET client**
- **Work with request batching to reduce network traffic**
- **Recognize where exceptions can occur in a request and handle them gracefully**
- **Describe how to secure a Web Service using HTTPS and authentication**
- **Use authentication credentials to secure a Web Service**
- **Decouple components from dependencies and use dependency injection**
- **Use the ASP.NET Web API Dependency Resolver interface to provide instances of needed controllers**
- **Describe how to customize or extend the ASP.NET Web API Pipeline**
- **Use the DelegatingHandler class to create a handler**
- **Add filters to an ASP.NET Web API to extend a pipeline**
- **Create an ASP.NET Web API Asynchronous Action to improve scalability when doing I/O heavy operations**
- **use Pipeline filters to extend authorization and authentication**
- **Describe the OData service**
- **Create an OData queryable action using a Query String option**
- **Extend the OData action using a Model, Controller, and Route**
- **Consume an OData service using the tools built into Visual Studio or programmatically with LINQ**
- **Consume and create advanced services, manipulating the ASP.NET Pipeline, and using OData services**



Expected Duration (hours)	Expertise Level
1.2	Expert

## 5 Developing Azure and Web Services: Azure Services

### Overview/Description

Azure has some built-in functionality that can be very powerful when creating scalable distributed apps. Explore Azure SDK and emulators, the Azure Service Bus, and Service Bus queues.

### Lesson Objectives

- **Install and configure the Azure SDK and Emulator**
- **Describe the Azure Cloud Service Roles and environment**
- **Host a web app in Azure**
- **Compare the features and benefits of self-hosting versus hosting on Azure**
- **Describe the Azure Service Bus, namespaces, and the Service Bus relay**
- **Describe the request-response relay pattern**
- **Create a relay endpoint using a Service Bus namespace**
- **Use NuGet to install the WCF bindings to support using the WCF service in a relay**
- **Create an Azure WCF Relay sender and a WCF Relay receiver**
- **Describing Azure Service Bus queues and brokering**
- **Setting up an Azure Service Bus queue**
- **Create a new Azure Service queue using C#**
- **Use duplicate detection to prevent messages being sent more than once**
- **Send a message using the QueueClient class**
- **Receive a message using the QueueClient class**
- **Use sessions to group messages and assign dedicated receivers**
- **Describe the Azure service bus queues and how they can be used for message handling**

Expected Duration (hours)	Expertise Level
1.1	Expert

## 6 Developing Azure and Web Services: Azure Storage

### Overview/Description

Azure Storage is a powerful feature that has been created for data storage. Explore the various types of storage available in Microsoft Azure and their purpose.

### Lesson Objectives

- **Describe the three Azure Storage services**
- **Create and configure an Azure Storage storage account**
- **Describe how Azure Storage containers store Binary Large Objects (Blobs)**
- **Describe Azure SQL and Cosmos DB**
- **Create and delete block and page based containers**
- **Read and write data to block blob storage containers**
- **Read and write data to page blob storage containers**
- **Manipulate blobs and the data stored in blob containers**
- **Use retry policies to handle failed network transactions**
- **Compare Azure Table storage to traditional relational databases**
- **Create and delete tables in Azure Table storage**
- **Create an Entity structure in .NET**
- **Query data and perform CRUD operations on an Azure Storage table**
- **Compare Azure queues to Service Bus queues**
- **Create and delete Azure queues using .NET**
- **Send messages to an Azure queue**
- **Retrieve messages from an Azure queue using Peek messages**
- **Describe the use of Azure Files**
- **Create a file share in Azure Files**
- **Use Azure File Sync**
- **Describe the storage methods and features provided on the Azure cloud**

Expected Duration (hours)	Expertise Level
1.3	Expert

## 7 Developing Azure and Web Services: Messaging, Security, and Troubleshooting

### Overview/Description

Subscription message handling, claims-based identity, security, and troubleshooting are all aspects of using Azure for hosting web services. Discover how to secure and debug Azure and the built-in message handling.

### Lesson Objectives

- Describe the Azure Service Bus Subscription-based messaging and Service Bus Topics
- Create a Windows Azure Service Bus Topic for Subscriptions
- Manage messages using filters
- Send a message to a Subscription Topic
- Receive a message for a topic using the SubscriptionClient class
- Work with claims-based identity management in distributed systems
- Describe the purpose of the Windows Identity Foundation (WIF) .NET Framework
- Implement claims-based identity management using .NET
- Configure Access Levels for Blob Containers
- Describe Shared Access Signatures for granting short-term access to resources
- Create and use a Shared Access Signature
- Describe the types of data you can collect from Azure diagnostics and how it can be collected
- Enable and monitor the App Suspend with ASP.NET
- Enable logging and track performance of Azure Storage requests
- Configure and use diagnostics for Azure in Visual Studio
- Collect and view collect diagnostic information with Visual Studio
- Secure and troubleshoot Azure

Expected Duration (hours)	Expertise Level
1.0	Expert

## 8 Developing Azure and Web Services: Advanced Deployment

### Overview/Description

Deploying a web app to a cluster of servers or to Azure requires careful planning and execution. Explore deployment management for IIS and Azure.

### Lesson Objectives

- Describe the benefits and principles of continuous delivery
- Configure continuous delivery using Team Foundation Service and Git
- Configure web deployment parameters using web config files
- Use Shared Assemblies to reduce startup time of multiple hosted services
- Configure Share Assembly bindings between MVC 4 and MVC 5
- Describe how the rolling upgrade works for upgrading domains on Azure
- Use the Visual Studio Web Deployment options to deploy web apps
- Create an IIS Web Deployment package
- Use IIS Manager to import and deploy an IIS Web Deployment package
- Deploy web apps using the command line tool MSDeploy
- Deploy web apps using PowerShell
- Deploy a web or service application to Azure
- Deploy a web app to Windows Azure Web Sites (WAWS)
- Configure WCF Endpoints for secure deployment on Azure using HTTPS
- Create and use a staging environment on Azure for testing
- Deploying and managing deployments on the Azure Cloud

Expected Duration (hours)	Expertise Level
1.3	Expert



Return to  
Technology/  
Development:  
Overview

## 9 Developing Azure and Web Services: Diagnostics, Debugging, and ACS

### Overview/Description

Azure provides a large set of tools to diagnose and debug issues. Discover how to troubleshoot and debug on Azure, and how to run diagnostics.

### Lesson Objectives

- Use the Trace system diagnostics with .NET
- Use the enhanced tracing provided by TraceSource
- Use a Trace Listener to store and route messages to a handler
- Use a Trace Writer in an ASP.NET Web App
- Enable and use WCF diagnostics and performance counters
- Use IntelliTrace in Azure to get detailed information on an application's flow
- Configure and collect Azure Metrics for Azure Cloud services
- View and interpret monitoring metrics for web sites
- Configure and view metrics for Azure Storage services
- Describe the Windows Azure Access Control Service (ACS)
- Use identity management in ACS to manage access to the Service Bus
- Describe active and passive federation
- Use active federation to call HTTP-based web services
- Configure ACS for a Service Bus endpoint
- Describe the Elastic Database client library
- Use tracing and diagnostics information to troubleshoot and debug services on Azure

Expected Duration (hours)	Expertise Level
1.1	Expert

## 10 Developing Azure and Web Services: Azure Scalability

### Overview/Description

Azure can help build scalable distributed web apps. Explore Azure scalability features, caching mechanisms, and how they are used to create distributed web apps.

### Lesson Objectives

- Define the purpose and reasons for creating systems that can scale
- Describe the components and architectural challenges that come with scaling out a system
- Describe the types of load balancing and how they can be operated
- Scale out a web app to multiple systems in Azure
- Describe caching options available in Azure
- Cache static data and use cache policies including policy expirations
- Describe cache based on file change notifications using System.Runtime.Caching classes
- Implement Query Dependent Cache using SqlCacheDependency
- Create Redis database service in Azure Portal
- Use the Azure Access Control for a Redis Cache
- Assign configuration settings to a Redis cache in Azure
- Configure Redis Cache in web.config of a .Net application
- Describe the benefits and reasons for Distributed Caching
- Define what Content Delivery Networks (CDN) are used for and when they should be used
- Describe the features and offerings of the Windows Server AppFabric Cache
- Define the AppFabric Cache Components
- Use the AppFabric Cache API programmatically
- Describe scalability and caching as they apply to Windows and Azure Web Apps and Services

Expected Duration (hours)	Expertise Level
1.2	Expert

## 11 Developing Azure and Web Services: API Management and Monitoring

### Overview/Description

Discover how to implement Azure API while applying OAuth management policies and monitoring web services. Log Analytics and troubleshooting is also covered.

### Lesson Objectives

- Describe OAuth features when implemented with the Azure Active Directory
- Define the essential policies of Azure API management
- Specify characteristics and features of monitoring in Azure
- Specify characteristics and features of throttling in Azure
- Facilitate log collection and metric evaluation with Event Hubs
- Work with logs and metrics using Azure Event Hubs
- List features and capabilities of Stream Analytics and machine learning provided by Azure
- Specify the approaches of monitoring and troubleshooting web services

Expected Duration (hours)	Expertise Level
0.6	Expert

## 12 Developing Azure and Web Services: Deployment Strategy

### Overview/Description

Explore how to identify and design the appropriate Azure deployment strategy using various system configurations and environments.

### Lesson Objectives

- Illustrate the steps involved in deploying web applications to containers
- Design and implement continuous deployment pipelines
- Recall deployment options for web services using Cloud Sync
- List the steps required in order determine the appropriate services
- Demonstrate how to create staging environments
- Demonstrate how to configure an upgrade domain
- Create and configure input and internal endpoints
- Illustrate the need for operating system configuration
- Demonstrate how to implement ARM templates in order to customize deployments
- Describe the steps involved in deploying web applications or web services to Azure Stack

Expected Duration (hours)	Expertise Level
0.8	Expert



## 13 Developing Azure and Web Services: Configuring Web Applications for Deployment

### Overview/Description

Learn to configure web applications for production, release, and debug mode and explore securing applications using Key Vault and credentials along with package management using NuGet.

### Lesson Objectives

- Illustrate how to switch from the Production or Release mode to the Debug mode
- Demonstrate how to transform configuration files
- Configure the Azure configuration settings
- Configure the Azure Key Vault for application secrets
- Demonstrate how to configure deployment credentials and the Azure App Service
- Create and configure a NuGet package
- Install and update existing NuGet packages
- Demonstrate how to resolve versioning conflict issues
- Connect to a local repository cache for NuGet
- Manage NuGet dependencies

Expected Duration (hours)	Expertise Level
0.7	Expert

## 14 Developing Azure and Web Services: Working with Assemblies

### Overview/Description

Learn how to configure and manage assemblies in different environments and discover how to work with cross-platform libraries.

### Lesson Objectives

- Demonstrate how to enable Assemblies and use them across multiple servers
- Illustrate how to sign Assemblies by using a Strong name
- Recall the steps involved in deploying Assemblies to the Global Assembly cache
- Demonstrate steps involved in creating an Assembly manifest to enable Versioning
- Recall how we can configure the Assembly Binding redirects
- Demonstrate the usage of cross-platform targeting for .NET assemblies
- Use assemblies across multiple server and platforms

Expected Duration (hours)	Expertise Level
0.3	Expert



## 15 Developing Azure and Web Services: Web API Services

### Overview/Description

Explore the fundamentals of Web API construction, as well as how to configure, secure, and host Web API applications.

### Lesson Objectives

- Describe HTTP resources with HTTP actions
- Plan appropriate URI space and map URI space using routing
- Choose appropriate HTTP method to meet requirements
- Choose appropriate Web API formats for responses to meet requirements
- Plan when to make HTTP actions asynchronous
- Use content negotiation to deliver different data formats to clients
- Define actions and parameters to handle data binding
- Implement dependency injection to create more flexible applications
- Implement streaming actions
- Implement middleware
- Implement identity for authentication
- Implement Data Protection APIs enable cross-domain requests
- Prevent cross-site request forgery (XSRF)
- Implement and extend authorization filters to control access to applications

Expected Duration (hours)	Expertise Level
1.0	Expert

## 16 Developing Azure and Web Services: Hosting Web APIs

### Overview/Description

Discover the fundamentals of Web API hosting. Explore self-hosting, host services, hosting environments, Swagger, and AutoRest.

### Lesson Objectives

- Host Web APIs in IIS
- Self-Hosting Web API
- Host Web API in Kestrel
- Host Services in Windows Azure Web App
- Host Services in Windows and Linux Containers
- Configure Host Servers for Streaming
- Work with Hosting Environments
- Handle Retry Logic
- Implement Content Negotiation
- Use Swagger to Construct URIs and Payloads
- Use AutoRest to Build Clients

Expected Duration (hours)	Expertise Level
0.9	Expert



## 17 Developing Azure and Web Services: Managing Data

### Overview/Description

Learn how to manage Data services using WCF and how to manage Accessing data using Entity Framework Providers. This course also covers hosting data services.

### Lesson Objectives

- **Demonstrate how to create WCF Data Services**
- **Work with addressing resources**
- **Implement filtering using \$filter**
- **Demonstrate the steps involved in creating a query expression**
- **List the essential capabilities provided by the payload formats**
- **Illustrate the use of the \$format operator**
- **List the features and capabilities provided Interceptors**
- **Illustrate the use of ChangeInterceptors**
- **Demonstrate how to use and work with QueryInterceptors**
- **Describe the concept and benefits of WCF Data Service Versioning**
- **Implement the Entity Framework provider**
- **Demonstrate Reflection provider implementation approaches**
- **Demonstrate the steps involved in web hosting a data service**
- **Recall the steps involved in self-hosting WCF services**
- **Demonstrate how to use actions to implement server-side behavior**
- **Host WCF services on IIS or with Windows services**

Expected Duration (hours)	Expertise Level
1.0	Expert

## 18 Developing Azure & Web Services: WCF Transactions & Services

### Overview/Description

WCF has a lot of power and flexibility. Explore transactions and how to add them to services and clients, and also explore WCF service configuration.

### Lesson Objectives

- **Describe distributed transactions, their scope, and the two-phase commit protocol**
- **Configure contracts and bindings to support transactions**
- **Add transaction support to a WCF service**
- **Use a distributed transaction from a client**
- **Use a service proxy with Visual Studio to consume a WCF service at design-time**
- **Generate proxies by using SvcUtil**
- **Create and configure bindings for WCF services**
- **Configure WCF services by using Configuration Settings**
- **Use a service proxy with ChannelFactory to consume a WCF service at run-time**

Expected Duration (hours)	Expertise Level
0.5	Expert

## 19 Java Certified Foundations Associate: Development Environment

### Overview/Description

Java provides the right tools and features to allow you to be productive from the very start. In this course, you will learn about the features of the Java Development Kit and the Java Runtime Environment. First, you will learn about the Java Development Toolkit and the Java Runtime Environment. Next, you will learn about the features of the JDK such as the Java Compiler, the Java Interpreter, the Java Disassembler, the Java Debugger, the Java Head File Generator, the Java Documentation and the Java Archive. Finally, you will learn how to install the JDK, FRE, and the IntelliJ for Java Developers. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the features and components of the Java Development Toolkit
- Describe the features and components of the Java Development Runtime (JRE)
- Describe the features and components of the Java Compiler and Interpreter
- Describe the features and components of the Java Disassembler and the Java Debugger
- Describe the features and components of the Java Documentation tool
- Describe the features and components of the Java Archive format and tool
- Demonstrate how to download and install the Java Development Toolkit
- Demonstrate how to download and install the Java Runtime Environment (JRE)
- Demonstrate how to download, install and configure the IntelliJ for Java Developers
- Compile and execute simple Java applications from the command line
- Create, compile and run a simple Java application using IntelliJ
- Write comments that can be used by the Javadoc tool to generate Javadoc pages

Expected Duration (hours)	Expertise Level
0.8	Beginner

## 20 Java Certified Foundations Associate: Coding Best Practices

### Overview/Description

Writing code that is easy to understand and maintain is crucial to the software development life cycle. Since Java is an object-oriented programming language, the code is already organized and grouped based on objects with properties and methods that are associated with each object. However, as a developer you still need to be cognizant of how you write your code. In this course, you'll learn how to distinguish between clean and messy code and the benefits of writing clean code. You'll also learn best practices for adding comments to your code and how to fix messy code. Finally, you'll explore tools that can be used when writing and cleaning code. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the importance of writing clean code and the challenges of keeping code clean
- Describe the qualities of clean code
- Describe best practices for writing clean code
- Describe the benefits of writing clean code
- Describe coding bad habits and how to prevent them
- Describe the business cost of writing messy, disorganized code
- Describe methods for refactoring and cleaning up messy code
- Describe best practices for commenting code
- Describe best practices for writing clean, understandable Java code
- Differentiate between clean and dirty code
- Describe tools that will help you write clean code
- Describe tools that can be used to clean web code such as HTML, CSS, and JavaScript

Expected Duration (hours)	Expertise Level
1.2	Beginner



## 21 Java Certified Foundations Associate: Object-oriented Programming

### Overview/Description

Object-oriented programming(OOP) is a programming method based on the concepts of 'objects' that contain properties and methods. Objects can inherit their structure from other classes and interfaces, which allows for code reuse. In this course, you'll learn about the features of object-oriented programming.

### Lesson Objectives

- Describe the key components of object-oriented programming and how OOP relates to Java
- Describe the features of Java objects, classes, and interfaces
- Create and run objects in Java
- Describe the features of Java inheritance
- Create and run classes that use inheritance in Java
- Describe the features of Java polymorphism
- Create and run classes that use polymorphism in Java
- Describe the features of Java abstract classes
- Create and use abstract classes in Java
- Describe the features of Java encapsulation
- Create and run classes that use encapsulation in Java
- Create and use inner classes in Java

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 22 Java Certified Foundations Associate: Design Patterns

### Overview/Description

While developing software, being able to use repeatable solutions to commonly occurring problems greatly reduces development time. In this course, you will learn how design patterns can be used to provide repeatable solutions to the common design problems. First, you will learn the importance of design patterns and discuss the types of design patterns such as Behavioral, Creational and Structural. Next, you will write code to demonstrate how to implement the Iterator, Singleton and Adapter design patterns. Finally, you will learn some advanced features of software development, including design anti-patterns, software refactoring techniques, API pattern principles, and API patterns. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the importance of design patterns
- Describe what are Behavioral design patterns and discuss implementations of these design patterns
- Create the Iterator design pattern
- Describe what are Creational design patterns and discuss implementations of these design patterns
- Create the Singleton design pattern
- Describe what are Structural design patterns and discuss implementations of these design patterns
- Create the Adapter design pattern
- Describe and review different types of design anti-patterns
- Describe how to use code refactoring to implement efficient programming solutions
- Describe how to use software refactoring techniques to solve architectural coding problems
- Recall the guiding principles that underpin most API patterns
- Describe fundamental design patterns for implementing API resource layout and naming

Expected Duration (hours)	Expertise Level
1.7	Intermediate

## 23 Java Certified Foundations Associate: Development Basics

### Overview/Description

Java is a powerful object-oriented programming language that encapsulates data and code in classes using properties and methods. Java uses objects that can interact with other objects. In this course, you'll learn about the components of a basic Java program such as classes, attributes, methods, and access modifiers. First, you'll examine the basics of Java development and the components of a basic program. Next, you'll learn about Java features, such as constructors, classes, attributes, and methods. Finally, you'll explore Java access modifiers and how to compile and run Java programs. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe features and components of a basic Java program
- Describe the features and components of Java classes
- Demonstrate the features and components of Java classes
- Describe the features and components of Java class attributes
- Demonstrate the features and components of Java attributes
- Describe the features and components of Java methods
- Demonstrate the features and components of Java methods
- Describe the features and components of Java constructors
- Demonstrate the features and components of Java constructors
- Describe the features and components of Java modifiers
- Demonstrate the features and components of Java modifiers
- Compile and run a basic Java program from the command line

Expected Duration (hours)	Expertise Level
2.0	Beginner

## 24 Java Certified Foundations Associate: Basic Elements

### Overview/Description

The Java programming language is a simple and powerful language to learn. In this course, you will learn Java programming basic and the Java programming style guide.

### Lesson Objectives

- Describe some of the basic of Java including keywords, comments, variables, identifiers, and data types
- Demonstrate some of the basic of Java including keywords, comments, variables, identifiers, and data types
- Describe the conventions that should be followed when writing Java programs in regards to formatting, naming conventions, programming practices, and Javadoc
- Demonstrate the conventions that should be followed when writing Java programs in regards to formatting, naming conventions, programming practices, and Javadoc
- Describe the reserved words in Java
- Demonstrate the use of the this keyword in a Java application to help explain scope
- Describe the different types of Java comments and Javadoc type comments
- Demonstrate the different types of Java comments and Javadoc type comments
- Describe Java packages and how to import them into a Java application
- Demonstrate Java packages and how to import them into a Java application
- Describe the features and components of the java.lang package including the primitive wrappers, String and StringBuilder class, the Math class and the System class
- Use java.lang package including the primitive wrappers, String and StringBuilder class, the Math class and the System class

Expected Duration (hours)	Expertise Level
1.1	Beginner



## 25 Java Certified Foundations Associate: Java Operators

### Overview/Description

Being able to perform mathematical, conditional, and relational operations is a key feature of the Java programming language. In this course, you'll learn about the available mathematical, conditional, relational, bitwise, and unary operations. First, you'll explore the arithmetic and assignment operators available in Java and how to use them. Then, you'll move on to learn about Java unary, equality, and relational operators. Next, you'll examine Java conditional and bitwise operators. Finally, you'll learn about the precedence of Java mathematical, conditional, relational, unary, and parentheses operators. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the various Java arithmetic and assignment operators
- Demonstrate the various Java arithmetic and assignment operators
- Describe the various Java unary operators
- Demonstrate the various Java unary operators
- Describe the various Java equality and relational operators
- Demonstrate the various Java equality and relational operators
- Describe the various Java logical operators
- Demonstrate the various Java logical operators
- Describe the various Java bitwise operators
- Demonstrate the various Java bitwise operators
- Describe operator precedence in Java
- Demonstrate operator precedence in Java

Expected Duration (hours)	Expertise Level
1.7	Beginner

## 26 Java Certified Foundations Associate: Java Strings

### Overview/Description

Strings are one of the most highly used data types in the Java programming language and working with strings efficiently is important for displaying and manipulating textual data. In this course, you'll learn to work with the String class and about the benefits of using the StringBuffer and StringBuilder classes with the stack and heap memory. You'll explore how to manipulate textual data using String variables and work with the String class methods. Next, you'll learn to use the more memory friendly StringBuffer and StringBuilder classes. Finally, you'll examine how to use escaping characters and String formatting specifiers. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the features of the Java String class
- Demonstrate the features of the Java String class
- Describe the Java StringBuffer class and how it relates to the String class
- Demonstrate the use of the Java StringBuffer class
- Describe the Java StringBuilder class and how it relates to the String class
- Demonstrate the use of the Java StringBuilder class
- Describe the various String class methods
- Demonstrate the use of various String class methods
- Describe the various String escaping characters
- Demonstrate the use of various String escaping characters
- Describe the various String formatting specifiers
- Demonstrate the use of various String formatting specifiers

Expected Duration (hours)	Expertise Level
1.5	Beginner

## 27 Java Certified Foundations Associate: Math & Random Classes

### Overview/Description

Mathematical operations are used to perform calculations of numeric data types and being able to generate random numbers is an important aspect of Computer Science. Java provides full functionality for mathematical operations and random number generation. In this course, you'll learn to use the Java Math and Random number generator classes. First, you'll explore the various methods provided by the Java Math and the Java Random class. Next, you'll learn about and review demonstrations of the use of the `java.util.Random`, the `Math.random`, and the `ThreadLocalRandom` classes. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Java Math class methods, advantages, and capturing exceptions
- Describe basic Math class functions in Java
- Demonstrate the use of basic Math class functions in Java
- Describe advanced Java Math class methods such as `Math.log()`, `Math.log10()`, `Math.log1p()`, `Math.toRadians()`, `Math.sin()`, `Math.cos()`, `Math.tan()`, `Math.asin()`, `Math.acos()`, `Math.sinh()`, `Math.cosh()`, and `Math.tanh()`
- Demonstrate the use of advanced Math class methods
- Describe and compare the various classes that can be used to generate random numbers such as the `java.util.Random` class, the `ThreadLocalRandom` class and the `Math.random` method
- Describe features and methods of the `java.util.Random` class
- Demonstrate the features and methods of the `java.util.Random` class
- Describe features and methods of the `Math.random` class
- Demonstrate the features and methods of the `Math.random` class
- Describe features and methods of the `ThreadLocalRandom` class
- Demonstrate the features and methods of the `ThreadLocalRandom` class

Expected Duration (hours)	Expertise Level
1.4	Beginner

## 28 Java Certified Foundations Associate: Decision Statements

### Overview/Description

One of the main components of modern programming languages is the ability to make decisions using the data provided to them. Java provides decision statements that can be used to make decisions and being able to make decisions is a fundamental part of the Java programming language. In this course, you'll learn about various types of Java decision statements. You'll examine how to use the if-then-else and switch statements. Then, you'll move on to learn about String comparisons, the comparison operator, the `equals()` method, and `compareTo`. You'll also learn about the strengths and weaknesses of each comparison operator and the best time to use each. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe and compare the various Java decision statements such as if-then, if-then-else, and switch and describe when to use each
- Describe the if-then and if-then-else statements and how they are used as decision statements in Java
- Demonstrate the use of the if-then and if-then-else statements and how they are used as decision statements in Java
- Describe the switch statement and how it is used as a decision statement in Java
- Demonstrate the use of the switch statement and how it is used as a decision statement in Java
- Describe the various classes and methods for comparing primitives and objects such as the `==`, `compareTo`, and `equals`
- Describe how the `==` operator differs between primitives and objects
- Demonstrate how the `==` operator differs between primitives and objects
- Describe the differences between the `equals()` method and the `==` operator in Java
- Demonstrate the differences between the `equals()` method and the `==` operator in Java
- Describe how to compare two String objects by using the `compareTo` method
- Compare two String objects by using the `compareTo` method

Expected Duration (hours)	Expertise Level
1.0	Beginner



## 29 Java Certified Foundations Associate: Looping Statements

### Overview/Description

One of the main tasks of computer applications is to process lists of data. Java lists of data can be processed using looping statements. In this course, you will learn the various methods for performing looping in Java programming language. First, you will learn about the various types of looping statements available in Java such as enhanced for loops, for loops, while loops, and do-while loops. Next, you will learn about the best practices to follow when performing looping. Finally, you will learn about the break and continue statement. Finally, you'll learn how to apply all of these looping methods. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the types of looping statements in Java such as for loops, while loops, do-while loops and enhanced for loops
- Describe for loops in Java
- Demonstrate for loops in Java
- Describe enhanced for loops in Java
- Demonstrate enhanced for loops in Java
- Describe while loops in Java
- Demonstrate while loops in Java
- Describe do-while loops in Java
- Demonstrate do-while loops in Java
- Describe the best practices for selecting the correct looping statements in Java
- Describe code that uses break and continue statements in Java
- Demonstrate code that uses break and continue statements in Java

Expected Duration (hours)	Expertise Level
1.3	Beginner

## 30 Java Certified Foundations Associate: Debugging & Exception Handling

### Overview/Description

Sometimes the unexpected happens in your Java code and you will need to figure out what broke and how to fix it. In this course, you will learn how to handle exceptions and how to debug your Java code. First, you will learn how to debug your code using the Java JDB tool as well as using IntelliJ. Next, you will learn the best practice for debugging Java code and some common syntax and logic errors that you may encounter and methods for fixing these errors. Finally, you will learn how to handle exceptions in your code using the try catch block statements. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe how to debug code using the Java JDB tool
- Debug code using the Java JDB tool
- Describe how to debug code using IntelliJ
- Debug code using IntelliJ
- Describe some of the best practices when debugging code in Java
- Describe some of the common syntax and logic errors that are made in Java code
- Describe exception handling and how it relates to Java
- Handle exceptions in Java
- Describe some of the common exceptions in Java
- Demonstrate some of the common exceptions in Java
- Describe how to use try catch blocks within Java
- Use try catch blocks within Java

Expected Duration (hours)	Expertise Level
1.1	Beginner



## 31 Java Certified Foundations Associate: Arrays & ArrayLists

### Overview/Description

In Java, sometimes you have to iterate through and process a list of data. In this course, you will learn how Arrays and ArrayList are designed to handle looping through lists of data. First, you will learn about Arrays and the ArrayList class. Next you will learn about the Iterator class and how it can be used to process a list of data. Finally, you will learn about special classes used to store and retrieve lists of data such as the LinkedList class, the HashMap class, and the HashSet class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Arrays and ArrayLists in Java and their differences
- Describe Arrays and how they are used within Java
- Demonstrate how Arrays are used within Java
- Describe ArrayLists and how they are used within Java
- Demonstrate how ArrayLists are used within Java
- Describe the Iterator class and how it is used within Java
- Describe the LinkedList class and how it is used within Java
- Demonstrate how LinkedList class is used within Java
- Describe the HashMap class and how it is used within Java
- Demonstrate how HashMap class is used within Java
- Describe the HashSet class and how it is used within Java
- Demonstrate how HashSet class is used within Java

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 32 Java Certified Foundations Associate: Classes & Constructors

### Overview/Description

Java is a powerful object-oriented programming language that encapsulates data and code in classes using properties and methods. Java uses objects that can interact with other objects. In this course, you'll learn about the components of a basic Java program such as classes, attributes, methods, and variables. First, you'll learn about the concepts of Java access modifiers and Java class members. Next, you'll examine the differences between a class, instance, and local variables and how they relate to Java. Next, you'll learn about the concept of overloading and how it applies to the constructor and methods. Finally, you'll explore how to create and instantiate a class with and without constructor parameters and modify the object fields. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe what classes are and how they are used in Java
- Demonstrate how classes are used in Java
- Describe how access modifiers are used by classes in Java
- Demonstrate how access modifiers are used by classes in Java
- Describe how members are used by classes in Java
- Demonstrate how access modifiers are used by classes in Java
- Describe the difference between class, instance, local variables and how they relate to Java
- Demonstrate the difference between class, instance, and local variables and how they relate to Java
- Describe the concept of overloading and how it applies to the constructor and methods in Java
- Demonstrate overloading and how it applies to the constructor and methods in Java
- Describe how to create and instantiate a class with and without constructor parameters and how to modify the objects fields
- Create and instantiate a class with and without constructor parameters and modify the object fields



Expected Duration (hours)	Expertise Level
1.3	Beginner

## 33 Java Certified Foundations Associate: Data Types

### Overview/Description

Java provides different data types that can be used to store and work with different types of data. In this course, you'll learn about these data types and how to perform actions on them. First, you'll learn about the various Java data types and their properties. Next, you'll examine how to declare and initialize variables in Java and the purpose of the final keyword. You'll then move on to explore data type casting and the concepts of widening and narrowing casting. Finally, you'll learn about the Java String data type and how it relates to the Java StringBuilder class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the different Java data types and their properties
- Demonstrate the use of the different Java data types and their properties
- Describe how to declare and initialize variables in Java and the purpose of the final keyword
- Declare and initialize variables in Java and use the final keyword
- Describe data type casting and the concepts of widening and narrowing casting
- Demonstrate the use of data type casting and widening and narrowing casting
- Describe data type conversion and the concepts of widening and narrowing conversions
- Demonstrate the use of data type conversion and widening and narrowing conversions
- Describe the features of the Java String class
- Demonstrate the features of the Java String class
- Describe the Java StringBuilder class and how it relates to the String class
- Demonstrate the use of the Java StringBuilder class

Expected Duration (hours)	Expertise Level
1.6	Beginner

## 34 Java Certified Foundations Associate: Java Methods

### Overview/Description

Java is an object-oriented programming language that uses classes to store data and provide methods to access and manipulate this data. In this course, you will learn how to create and use methods to manipulate the data inside a class. First, you will learn about Java methods, accessor methods, and mutator methods and how they are used in Java classes. Next, you will learn about describing overloading in Java and when to use it. Next, you will learn about interfaces and how they are used to specify the behavior that a Class must implement. Finally, you will learn about the static keyword and how it can be applied to a method in a Class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Java methods and how they are used in Java classes
- Demonstrate Java methods and how they are used in Java classes
- Describe Java accessor methods and how they are used in Java classes
- Demonstrate Java accessor methods and how they are used in Java classes
- Describe Java mutator methods and how they are used in Java classes
- Demonstrate Java mutator methods and how they are used in Java classes
- Describe method overloading in Java and when to use it
- Demonstrate how to perform method overloading in Java
- Describe interfaces and how they are used within Java to specify the behavior that a class must implement
- Demonstrate interfaces and how they are used within Java
- Describe the static keyword and how it is applied to methods in Java

Expected Duration (hours)	Expertise Level
1.6	Beginner

## 35 Java Certified Foundations Associate: Concepts & Features

### Overview/Description

Java is a powerful object-oriented programming language that allows you to write code once and deploy it on multiple operating systems. In this course, you'll learn about the Java programming language and related concepts, as well as how to work with the Java Development Kit and the Java Runtime Environment. First, you'll learn about the Java Virtual Machine and object-oriented programming concepts. Next, you'll explore Java features, such as platform independence, security and robustness, architecture neutrality, portability, and performance. Finally, you'll learn about Java distributed applications, multi-threading, dynamic loading, and real-world applications. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the main features of the Java programming language
- Describe the Java Virtual Machine and how it relates to Java
- Describe the key components of object-oriented programming and how it relates to Java
- Describe the platform independence of Java and the advantages and drawbacks of this approach
- Describe the features of Java that ensure it is safe, secure, and robust
- Describe the neutral architecture of Java and the benefits that this provides
- Describe the features of Java that allow it to be portable, such as two-byte code
- Describe the features of Java that allow it to run more quickly than traditional interpreted programming languages
- Describe the features of Java that allow applications to be distributed, such as RMI and EJB
- Describe the multi-threading features of Java
- Describe the dynamic loading features of Java
- Recognize examples of real-world Java applications

Expected Duration (hours)	Expertise Level
0.9	Beginner

## 36 Java Certified Foundations Associate: Development Environment

### Overview/Description

Java provides the right tools and features to allow you to be productive from the very start. In this course, you will learn about the features of the Java Development Kit and the Java Runtime Environment. First, you will learn about the Java Development Toolkit and the Java Runtime Environment. Next, you will learn about the features of the JDK such as the Java Compiler, the Java Interpreter, the Java Disassembler, the Java Debugger, the Java Head File Generator, the Java Documentation and the Java Archive. Finally, you will learn how to install the JDK, FRE, and the IntelliJ for Java Developers. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the features and components of the Java Development Toolkit
- Describe the features and components of the Java Development Runtime (JRE)
- Describe the features and components of the Java Compiler and Interpreter
- Describe the features and components of the Java Disassembler and the Java Debugger
- Describe the features and components of the Java Documentation tool
- Describe the features and components of the Java Archive format and tool
- Demonstrate how to download and install the Java Development Toolkit
- Demonstrate how to download and install the Java Runtime Environment (JRE)
- Demonstrate how to download, install and configure the IntelliJ for Java Developers
- Compile and execute simple Java applications from the command line
- Create, compile and run a simple Java application using IntelliJ
- Write comments that can be used by the JavaDoc tool to generate JavaDoc pages

Expected Duration (hours)	Expertise Level
0.8	Beginner



## 37 Java Certified Foundations Associate: Coding Best Practices

### Overview/Description

Writing code that is easy to understand and maintain is crucial to the software development life cycle. Since Java is an object-oriented programming language, the code is already organized and grouped based on objects with properties and methods that are associated with each object. However, as a developer you still need to be cognizant of how you write your code. In this course, you'll learn how to distinguish between clean and messy code and the benefits of writing clean code. You'll also learn best practices for adding comments to your code and how to fix messy code. Finally, you'll explore tools that can be used when writing and cleaning code. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the importance of writing clean code and the challenges of keeping code clean
- Describe the qualities of clean code
- Describe best practices for writing clean code
- Describe the benefits of writing clean code
- Describe coding bad habits and how to prevent them
- Describe the business cost of writing messy, disorganized code
- Describe methods for refactoring and cleaning up messy code
- Describe best practices for commenting code
- Describe best practices for writing clean, understandable Java code
- Differentiate between clean and dirty code
- Describe tools that will help you write clean code
- Describe tools that can be used to clean web code such as HTML, CSS, and JavaScript

Expected Duration (hours)	Expertise Level
1.2	Beginner

## 38 Java Certified Foundations Associate: Object-oriented Programming

### Overview/Description

Object-oriented programming(OOP) is a programming method based on the concepts of 'objects' that contain properties and methods. Objects can inherit their structure from other classes and interfaces, which allows for code reuse. In this course, you'll learn about the features of object-oriented programming.

### Lesson Objectives

- Describe the key components of object-oriented programming and how OOP relates to Java
- Describe the features of Java objects, classes, and interfaces
- Create and run objects in Java
- Describe the features of Java inheritance
- Create and run classes that use inheritance in Java
- Describe the features of Java polymorphism
- Create and run classes that use polymorphism in Java
- Describe the features of Java abstract classes
- Create and use abstract classes in Java
- Describe the features of Java encapsulation
- Create and run classes that use encapsulation in Java
- Create and use inner classes in Java

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 39 Java Certified Foundations Associate: Design Patterns

### Overview/Description

While developing software, being able to use repeatable solutions to commonly occurring problems greatly reduces development time. In this course, you will learn how design patterns can be used to provide repeatable solutions to the common design problems. First, you will learn the importance of design patterns and discuss the types of design patterns such as Behavioral, Creational and Structural. Next, you will write code to demonstrate how to implement the Iterator, Singleton and Adapter design patterns. Finally, you will learn some advanced features of software development, including design anti-patterns, software refactoring techniques, API pattern principles, and API patterns. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the importance of design patterns
- Describe what are Behavioral design patterns and discuss implementations of these design patterns
- Create the Iterator design pattern
- Describe what are Creational design patterns and discuss implementations of these design patterns
- Create the Singleton design pattern
- Describe what are Structural design patterns and discuss implementations of these design patterns
- Create the Adapter design pattern
- Describe and review different types of design anti-patterns
- Describe how to use code refactoring to implement efficient programming solutions
- Describe how to use software refactoring techniques to solve architectural coding problems
- Recall the guiding principles that underpin most API patterns
- Describe fundamental design patterns for implementing API resource layout and naming

Expected Duration (hours)	Expertise Level
1.7	Intermediate

## 40 Java Certified Foundations Associate: Development Basics

### Overview/Description

Java is a powerful object-oriented programming language that encapsulates data and code in classes using properties and methods. Java uses objects that can interact with other objects. In this course, you'll learn about the components of a basic Java program such as classes, attributes, methods, and access modifiers. First, you'll examine the basics of Java development and the components of a basic program. Next, you'll learn about Java features, such as constructors, classes, attributes, and methods. Finally, you'll explore Java access modifiers and how to compile and run Java programs. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe features and components of a basic Java program
- Describe the features and components of Java classes
- Demonstrate the features and components of Java classes
- Describe the features and components of Java class attributes
- Demonstrate the features and components of Java attributes
- Describe the features and components of Java methods
- Demonstrate the features and components of Java methods
- Describe the features and components of Java constructors
- Demonstrate the features and components of Java constructors
- Describe the features and components of Java modifiers
- Demonstrate the features and components of Java modifiers
- Compile and run a basic Java program from the command line

Expected Duration (hours)	Expertise Level
2.0	Beginner



## 41 Java Certified Foundations Associate: Basic Elements

### Overview/Description

The Java programming language is a simple and powerful language to learn. In this course, you will learn Java programming basic and the Java programming style guide.

### Lesson Objectives

- Describe some of the basic of Java including keywords, comments, variables, identifiers, and data types
- Demonstrate some of the basic of Java including keywords, comments, variables, identifiers, and data types
- Describe the conventions that should be followed when writing Java programs in regards to formatting, naming conventions, programming practices, and Javadoc
- Demonstrate the conventions that should be followed when writing Java programs in regards to formatting, naming conventions, programming practices, and Javadoc
- Describe the reserved words in Java
- Demonstrate the use of the this keyword in a Java application to help explain scope
- Describe the different types of Java comments and Javadoc type comments
- Demonstrate the different types of Java comments and Javadoc type comments
- Describe Java packages and how to import them into a Java application
- Demonstrate Java packages and how to import them into a Java application
- Describe the features and components of the java.lang package including the primitive wrappers, String and StringBuilder class, the Math class and the System class
- Use java.lang package including the primitive wrappers, String and StringBuilder class, the Math class and the System class

Expected Duration (hours)	Expertise Level
1.1	Beginner

## 42 Java Certified Foundations Associate: Java Operators

### Overview/Description

Being able to perform mathematical, conditional, and relational operations is a key feature of the Java programming language. In this course, you'll learn about the available mathematical, conditional, relational, bitwise, and unary operations. First, you'll explore the arithmetic and assignment operators available in Java and how to use them. Then, you'll move on to learn about Java unary, equality, and relational operators. Next, you'll examine Java conditional and bitwise operators. Finally, you'll learn about the precedence of Java mathematical, conditional, relational, unary, and parentheses operators. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the various Java arithmetic and assignment operators
- Demonstrate the various Java arithmetic and assignment operators
- Describe the various Java unary operators
- Demonstrate the various Java unary operators
- Describe the various Java equality and relational operators
- Demonstrate the various Java equality and relational operators
- Describe the various Java logical operators
- Demonstrate the various Java logical operators
- Describe the various Java bitwise operators
- Demonstrate the various Java bitwise operators
- Describe operator precedence in Java
- Demonstrate operator precedence in Java

Expected Duration (hours)	Expertise Level
1.7	Beginner

## 43 Java Certified Foundations Associate: Java Strings

### Overview/Description

Strings are one of the most highly used data types in the Java programming language and working with strings efficiently is important for displaying and manipulating textual data. In this course, you'll learn to work with the String class and about the benefits of using the StringBuffer and StringBuilder classes with the stack and heap memory. You'll explore how to manipulate textual data using String variables and work with the String class methods. Next, you'll learn to use the more memory friendly StringBuffer and StringBuilder classes. Finally, you'll examine how to use escaping characters and String formatting specifiers. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the features of the Java String class
- Demonstrate the features of the Java String class
- Describe the Java StringBuffer class and how it relates to the String class
- Demonstrate the use of the Java StringBuffer class
- Describe the Java StringBuilder class and how it relates to the String class
- Demonstrate the use of the Java StringBuilder class
- Describe the various String class methods
- Demonstrate the use of various String class methods
- Describe the various String escaping characters
- Demonstrate the use of various String escaping characters
- Describe the various String formatting specifiers
- Demonstrate the use of various String formatting specifiers



Expected Duration (hours)	Expertise Level
1.5	Beginner

## 44 Java Certified Foundations Associate: Math & Random Classes

### Overview/Description

Mathematical operations are used to perform calculations of numeric data types and being able to generate random numbers is an important aspect of Computer Science. Java provides full functionality for mathematical operations and random number generation. In this course, you'll learn to use the Java Math and Random number generator classes. First, you'll explore the various methods provided by the Java Math and the Java Random class. Next, you'll learn about and review demonstrations of the use of the java.util.Random, the Java Math.random, and the Java ThreadLocalRandom classes. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Java Math class methods, advantages, and capturing exceptions
- Describe basic Math class functions in Java
- Demonstrate the use of basic Math class functions in Java
- Describe advanced Java Math class methods such as Math.log(), Math.log10(), Math.log1p(), Math.toRadians(), Math.sin(), Math.cos(), Math.tan(), Math.asin(), Math.acos(), Math.sinh(), Math.cosh(), and Math.tanh()
- Demonstrate the use of advanced Math class methods
- Describe and compare the various classes that can be used to generate random numbers such as the java.util.Random class, the ThreadLocalRandom class and the Math.random method
- Describe features and methods of the java.util.Random class
- Demonstrate the features and methods of the java.util.Random class
- Describe features and methods of the Math.random class
- Demonstrate the features and methods of the Math.random class
- Describe features and methods of the ThreadLocalRandom class
- Demonstrate the features and methods of the ThreadLocalRandom class

Expected Duration (hours)	Expertise Level
1.4	Beginner

## 45 Java Certified Foundations Associate: Decision Statements

### Overview/Description

One of the main components of modern programming languages is the ability to make decisions using the data provided to them. Java provides decision statements that can be used to make decisions and being able to make decisions is a fundamental part of the Java programming language. In this course, you'll learn about various types of Java decision statements. You'll examine how to use the if-then-else and switch statements. Then, you'll move on to learn about String comparisons, the comparison operator, the equals() method, and compareTo. You'll also learn about the strengths and weaknesses of each comparison operator and the best time to use each. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe and compare the various Java decision statements such as if-then, if-then-else, and switch and describe when to use each
- Describe the if-then and if-then-else statements and how they are used as decision statements in Java
- Demonstrate the use of the if-then and if-then-else statements and how they are used as decision statements in Java
- Describe the switch statement and how it is used as a decision statement in Java
- Demonstrate the use of the switch statement and how it is used as a decision statement in Java
- Describe the various classes and methods for comparing primitives and objects such as the ==, compareTo, and equals
- Describe how the == operator differs between primitives and objects
- Demonstrate how the == operator differs between primitives and objects
- Describe the differences between the equals() method and the == operator in Java
- Demonstrate the differences between the equals() method and the == operator in Java
- Describe how to compare two String objects by using the compareTo method
- Compare two String objects by using the compareTo method

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 46 Java Certified Foundations Associate: Looping Statements

### Overview/Description

One of the main tasks of computer applications is to process lists of data. Java lists of data can be processed using looping statements. In this course, you will learn the various methods for performing looping in Java programming language. First, you will learn about the various types of looping statements available in Java such as enhanced for loops, for loops, while loops, and do-while loops. Next, you will learn about the best practices to follow when performing looping. Finally, you will learn about the break and continue statement. Finally, you'll learn how to apply all of these looping methods. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the types of looping statements in Java such as for loops, while loops, do-while loops and enhanced for loops
- Describe for loops in Java
- Demonstrate for loops in Java
- Describe enhanced for loops in Java
- Demonstrate enhanced for loops in Java
- Describe while loops in Java
- Demonstrate while loops in Java
- Describe do-while loops in Java
- Demonstrate do-while loops in Java
- Describe the best practices for selecting the correct looping statements in Java
- Describe code that uses break and continue statements in Java
- Demonstrate code that uses break and continue statements in Java

Expected Duration (hours)	Expertise Level
1.3	Beginner



## 47 Java Certified Foundations Associate: Debugging & Exception Handling

### Overview/Description

Sometimes the unexpected happens in your Java code and you will need to figure out what broke and how to fix it. In this course, you will learn how to handle exceptions and how to debug your Java code. First, you will learn how to debug your code using the Java JDB tool as well as using IntelliJ. Next, you will learn the best practice for debugging Java code and some common syntax and logic errors that you may encounter and methods for fixing these errors. Finally, you will learn how to handle exceptions in your code using the try catch block statements. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe how to debug code using the Java JDB tool
- Debug code using the Java JDB tool
- Describe how to debug code using IntelliJ
- Debug code using IntelliJ
- Describe some of the best practices when debugging code in Java
- Describe some of the common syntax and logic errors that are made in Java code
- Describe exception handling and how it relates to Java
- Handle exceptions in Java
- Describe some of the common exceptions in Java
- Demonstrate some of the common exceptions in Java
- Describe how to use try catch blocks within Java
- Use try catch blocks within Java

Expected Duration (hours)	Expertise Level
1.1	Beginner

## 48 Java Certified Foundations Associate: Arrays & ArrayLists

### Overview/Description

In Java, sometimes you have to iterate through and process a list of data. In this course, you will learn how Arrays and ArrayList are designed to handle looping through lists of data. First, you will learn about Arrays and the ArrayList class. Next you will learn about the Iterator class and how it can be used to process a list of data. Finally, you will learn about special classes used to store and retrieve lists of data such as the LinkedList class, the HashMap class, and the HashSet class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Arrays and ArrayLists in Java and their differences
- Describe Arrays and how they are used within Java
- Demonstrate how Arrays are used within Java
- Describe ArrayLists and how they are used within Java
- Demonstrate how ArrayLists are used within Java
- Describe the Iterator class and how it is used within Java
- Describe the LinkedList class and how it is used within Java
- Demonstrate how LinkedList class is used within Java
- Describe the HashMap class and how it is used within Java
- Demonstrate how HashMap class is used within Java
- Describe the HashSet class and how it is used within Java
- Demonstrate how HashSet class is used within Java

Expected Duration (hours)	Expertise Level
1.0	Beginner



## 49 Java Certified Foundations Associate: Classes & Constructors

### Overview/Description

Java is a powerful object-oriented programming language that encapsulates data and code in classes using properties and methods. Java uses objects that can interact with other objects. In this course, you'll learn about the components of a basic Java program such as classes, attributes, methods, and variables. First, you'll learn about the concepts of Java access modifiers and Java class members. Next, you'll examine the differences between a class, instance, and local variables and how they relate to Java. Next, you'll learn about the concept of overloading and how it applies to the constructor and methods. Finally, you'll explore how to create and instantiate a class with and without constructor parameters and modify the object fields. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe what classes are and how they are used in Java
- Demonstrate how classes are used in Java
- Describe how access modifiers are used by classes in Java
- Demonstrate how access modifiers are used by classes in Java
- Describe how members are used by classes in Java
- Demonstrate how access modifiers are used by classes in Java
- Describe the difference between class, instance, local variables and how they relate to Java
- Demonstrate the difference between class, instance, and local variables and how they relate to Java
- Describe the concept of overloading and how it applies to the constructor and methods in Java
- Demonstrate overloading and how it applies to the constructor and methods in Java
- Describe how to create and instantiate a class with and without constructor parameters and how to modify the objects fields
- Create and instantiate a class with and without constructor parameters and modify the object fields

Expected Duration (hours)	Expertise Level
1.3	Beginner

## 50 Java Certified Foundations Associate: Data Types

### Overview/Description

Java provides different data types that can be used to store and work with different types of data. In this course, you'll learn about these data types and how to perform actions on them. First, you'll learn about the various Java data types and their properties. Next, you'll examine how to declare and initialize variables in Java and the purpose of the final keyword. You'll then move on to explore data type casting and the concepts of widening and narrowing casting. Finally, you'll learn about the Java String data type and how it relates to the Java StringBuilder class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe the different Java data types and their properties
- Demonstrate the use of the different Java data types and their properties
- Describe how to declare and initialize variables in Java and the purpose of the final keyword
- Declare and initialize variables in Java and use the final keyword
- Describe data type casting and the concepts of widening and narrowing casting
- Demonstrate the use of data type casting and widening and narrowing casting
- Describe data type conversion and the concepts of widening and narrowing conversions
- Demonstrate the use of data type conversion and widening and narrowing conversions
- Describe the features of the Java String class
- Demonstrate the features of the Java String class
- Describe the Java StringBuilder class and how it relates to the String class
- Demonstrate the use of the Java StringBuilder class

Expected Duration (hours)	Expertise Level
1.6	Beginner

## 51 Java Certified Foundations Associate: Java Methods

### Overview/Description

Java is an object-oriented programming language that uses classes to store data and provide methods to access and manipulate this data. In this course, you will learn how to create and use methods to manipulate the data inside a class. First, you will learn about Java methods, accessor methods, and mutator methods and how they are used in Java classes. Next, you will learn about describing overloading in Java and when to use it. Next, you will learn about interfaces and how they are used to specify the behavior that a Class must implement. Finally, you will learn about the static keyword and how it can be applied to a method in a Class. This course is one of a collection of courses that prepares learners for Oracle's 1Z0-811: Java Certified Foundations Associate certification.

### Lesson Objectives

- Describe Java methods and how they are used in Java classes
- Demonstrate Java methods and how they are used in Java classes
- Describe Java accessor methods and how they are used in Java classes
- Demonstrate Java accessor methods and how they are used in Java classes
- Describe Java mutator methods and how they are used in Java classes
- Demonstrate Java mutator methods and how they are used in Java classes
- Describe method overloading in Java and when to use it
- Demonstrate how to perform method overloading in Java
- Describe interfaces and how they are used within Java to specify the behavior that a class must implement
- Demonstrate interfaces and how they are used within Java
- Describe the static keyword and how it is applied to methods in Java

Expected Duration (hours)	Expertise Level
1.6	Beginner

## 52 Programming Fundamentals

### Overview/Description

Many of the basic components used when programming are common to most modern programming languages, and learning these fundamentals is vital to the software development process. In this course, you will learn some of the more common components used including variables, arrays, operators, strings, and data structures such as lists, stacks, and queues. This course is one of a series in the SkillSoft learning path that covers the objectives for the Microsoft certification exam Software Development Fundamentals (Exam 98-361), which is part of the Microsoft Technology Associate (MTA) certification track.

### Lesson Objectives

- Recognize the basic structure of a C# program
- Create a basic C# program
- Work with methods
- Recognize and use class constructors, including the default constructor and overloaded constructors
- Use namespaces with objects
- Describe how a computer stores your program code and instructions in memory
- Create variables and constants
- Define different variable data types
- Create and use arrays
- Use math operators
- Work with C# strings
- Work with string literals
- Use string indexing
- Use char and strings
- Work with substrings
- Convert strings to numbers
- Use C# lists
- Use C# arrays
- Use C# queues
- Use C# stacks
- Use C# linked lists
- Compare the performance implications of different data structures and how to determine which data structure to use
- Create a basic C# program that uses methods, classes and constructors

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in the Microsoft Technology Associate (MTA) certification track; programmers and developers who want to better understand software development; individuals interested in learning the fundamental skills needed in software development	2.3	Beginner



## 53 Programming Techniques

### Overview/Description

Program flow and execution are often dependent upon having to make decisions at runtime. In this course, you will learn how to use the common decision structures available in most programming languages, including If and Switch statements, and For and While loops. In addition, you will also learn how to work with programming techniques such as recursion, exception handling, number randomization, and sorting algorithms. Finally, you will learn how alerts and events are used in Windows Forms applications. This course is one of a series in the SkillSoft learning path that covers the objectives for the Microsoft certification exam Software Development Fundamentals (Exam 98-361), which is part of the Microsoft Technology Associate (MTA) certification track.

### Lesson Objectives

- Identify and recognize program flow through the use of flow charts
- Describe decision tables and the benefits they provide
- Use if statements, use if-else statements
- Use conditional operators, switch statements
- Use while and do-while loops
- Use for and foreach loops
- Use try, catch, and finally statements together
- Implement recursion in software programming
- Use exception handling
- Capture input in a console application
- Create random numbers
- Create a list of unique random numbers
- Describe the purposes of sorting algorithms
- Create and use the quick sort algorithm
- Read a text file and display its contents using C#
- Describe, add and configure the basic elements of a Windows Forms application
- Configure and use Windows Form events
- Create Windows alerts and dialogs
- Create a code that utilizes if-then-else statements, switch statements, and generates random numbers

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in the Microsoft Technology Associate (MTA) certification track; programmers and developers who want to better understand software development; individuals interested in learning the fundamental skills needed in software development	2.3	Beginner

## 54 Developing Windows and Web Applications

### Overview/Description

Software development for both Windows applications and Web applications is one of the most common tasks developers and programmers are involved with. Learning the fundamental skills needed to create these applications is vital to your success as a developer or programmer, as well as to the success of the final product. In this course, you will learn the basics of Windows Forms applications including creating tabbed pages, opening and saving files, and creating drop-down menus and toolbars. In addition, you will learn how to create a Web browser client and a Windows application. Finally, you will learn the fundamentals of Web development and ASP.NET, including working with cascading style sheets, inline styles, web services, and the basics of SOAP and WSDL. This course is one of a series in the SkillSoft learning path that covers the objectives for the Microsoft certification exam Software Development Fundamentals (Exam 98-361), part of the Microsoft Technology Associate (MTA) certification track.

### Lesson Objectives

- Create tabbed pages
- Save and open files with a Windows forms application
- Create a dropdown menu
- Create multiple document interface applications
- Create a toolbar, web browser and Windows application
- Set up and finish a Windows application
- Create an HTML5 web page in Visual Studio .NET
- Describe how a cascading style sheet can be used in your web application
- Work with style sheets
- Utilize inline CSS styles
- Modify DIVs using CSS
- Describe the differences between client-side and server-side programming and the benefits associated with each
- Describe the life cycle and event model of an ASP.NET web page
- Describe the state management fundamentals in ASP.NET for preserving data on a page level and application level
- Install Internet Information Services (IIS) and verify web server functionality
- Create virtual directories and web sites and access them from a client application
- Describe the basics of SOAP and the role it plays in ASP.NET development
- Describe the basics of WSDL and the role it plays in ASP.NET development
- Identify the fundamental concepts required for creating Windows and web applications

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in the Microsoft Technology Associate (MTA) certification track; programmers and developers who want to better understand software development; individuals interested in learning the fundamental skills needed in software development	2.2	Beginner

## 55 Object-oriented Programming Fundamentals

### Overview/Description

Most modern programming languages today are object-oriented and learning the concepts associated with this paradigm will greatly improve the quality and speed at which you can create robust applications. In this course, you will learn the fundamental concepts of object-oriented programming, including encapsulation, inheritance, base and derived classes, abstract and sealed classes, casting between types, and interfaces. In addition, you will also learn the JavaScript fundamentals needed for creating web applications, including the basic rules of JavaScript, JavaScript functions, and referencing and modifying HTML elements. This course is one of a series in the SkillsSoft learning path that covers the objectives for the Microsoft certification exam Software Development Fundamentals (Exam 98-361), part of the Microsoft Technology Associate (MTA) certification track.

### Lesson Objectives

- **Create a class in C#**
- **Create objects from a C# class**
- **Create properties for C# objects**
- **Reference objects using the this keyword**
- **Use an object to trigger an event**
- **Implement static members and structs**
- **Describe encapsulation and how it can be used to restrict access to data**
- **Define the purpose of access modifiers**
- **Define inheritance in object-oriented programming**
- **Describe base classes and derived classes**
- **Use abstract and sealed classes**
- **Implement casting between types**
- **Use is and as**
- **Describe and work with the concept of polymorphism in OOP**
- **Use the override and new keywords when working with base and derived classes**
- **Describe the purpose of interfaces and use the IComparable interface**
- **Describe the purpose of JavaScript**
- **Identify the basic rules of JavaScript**
- **Use JavaScript functions**
- **Reference HTML elements with JavaScript**
- **Modify HTML elements with JavaScript**
- **Create JavaScript programming language alerts, prompts, and functions**



Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in the Microsoft Technology Associate (MTA) certification track; programmers and developers who want to better understand software development; individuals interested in learning the fundamental skills needed in software development	2.1	Beginner

## 56 Windows Store Applications and Databases

### Overview/Description

Creating applications for multiple types of devices is now commonplace and most applications today require access to a datastore for saving, modifying, and retrieving information. In this course, you will learn the fundamentals of Windows Store applications for creating apps for multiple devices. Focus is centered on planning and designing the app, as well as how gestures operate in Windows Store apps. In addition, this course also covers the basics of console-based applications and Windows Services, and the benefits of these types of applications. Finally, you will learn database fundamentals including various types of databases available, basics of RDBM systems, entity relationship diagrams, normalization, structured query language, and stored procedures. This course is one of a series in the SkillSoft learning path that covers the objectives for the Microsoft certification exam Software Development Fundamentals (Exam 98-361), part of the Microsoft Technology Associate (MTA) certification track.

### Lesson Objectives

- **Identify the characteristics of a console-based application and the situations when console applications are beneficial**
- **Create a console application in Microsoft Visual Studio**
- **Describe the characteristics of a Windows Services application and how they differ from other applications**
- **Created using Visual Studio**
- **Create a Windows Service in Microsoft Visual Studio**
- **Perform the install and uninstall procedures when working with Windows Services**
- **Describe what Windows Store apps are and on which devices they can run**
- **Identify the key stages in the design process when planning a Windows Store app**
- **Identify the key elements to consider when creating the UI for a Windows Store app**
- **Identify the types of gestures available to a Windows Store app**
- **Explain considerations for creating Windows Store apps**
- **Create a Windows Store app in Microsoft Visual Studio**
- **Describe the characteristics and capabilities of various types of databases, including table structure**
- **Identify the core concepts of RDBMS, including primary, foreign and unique keys, and relationship types**
- **Recognize the purpose of entity relationship diagrams and their associated components**
- **Recognize basic entity relationship diagrams to demonstrate the relationships existing in a database**
- **Describe what normalization is and identify the benefits it provides**
- **Describe the different levels of normal forms and the advantages and disadvantages of each**
- **Describe the purpose of SQL and how it can be used to access data in a database**
- **Identify and write basic SQL statements for reading, writing, and editing data in a database**
- **Create a new SQL database, import SQL data and use SQL commands to access a database**
- **Describe the different types of stored procedures and the benefits stored procedures provide**
- **Create and access a stored procedure**
- **Describe various types of data stores such as flat files and XML files**
- **Connect to an XML data store programmatically**
- **Identify the fundamental concepts associated with Windows Store Apps and databases, including stored procedures and normalization**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals interested in the Microsoft Technology Associate (MTA) certification track; programmers and developers who want to better understand software development; individuals interested in learning the fundamental skills needed in software development	2.2	Beginner

## 57 Fundamentals of C++ Programming

### Overview/Description

Based on C, C++ is a general-purpose, object-oriented programming language. Learn how to set up a development environment and explore the fundamentals of C++, including program structure, I/O streams, and header and source files.

### Lesson Objectives

- **Recognize the characteristics and uses of the C++ programming language, and identify the main libraries it uses**
- **Download and install Eclipse for C and C++ development**
- **Use Eclipse to create a new C++ project**
- **Install and compile C++ programs with GCC on Linux or Unix systems**
- **Create C++ projects in Visual Studio**
- **Describe the structure of a C++ program**
- **Recognize the major syntax differences between C++ and C**
- **Work with C++ I/O streams**
- **Use the C++ preprocessor**
- **Parse command line arguments in C++**
- **Divide code into header and source file pairs in C++**
- **Recognize the main parts of a C++ program and describe the use of the preprocessor**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.5	Beginner

## 58 Data Types, Modifiers, Operators, and Flow Control

### Overview/Description

C++ is a typed language, it is vital you understand how to correctly work with data. In this course you will explore the data types in C++, work with modifiers and operators, and learn how to manage flow control in your C++ programs.

### Lesson Objectives

- **Recognize the characteristics of C++ data types**
- **Work with UTF-16, UTF-32, and wide characters in C++**
- **Work with C++ data type modifiers**
- **Use arithmetic operators in a C++ program**
- **Work with relational and logical operators in C++**
- **Work with bitwise operators in C++**
- **Work with assignment operators in C++**
- **Work with compound assignment operators in C++**
- **Use the if statement for branching in C++ programs**
- **Use a for loop in C++ programs**
- **Use a while loop in C++ programs**
- **Use a do while loop in C++**
- **Use the switch statement in C++ programs**
- **Create a basic C++ application using data types and looping constructs**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.5	Beginner



## 59 Functions, References, Exceptions Strings & Namespaces

### Overview/Description

A function is a group of statements that performs a specific task, and may or may not return a value after execution. Explore the basics of creating custom functions, using strings, handling exceptions, and including namespaces in C++.

### Lesson Objectives

- Define default arguments for a function in C++
- Write an inline function in C++
- Write overloaded functions in C++
- Pass pointers as arguments to functions in C++
- Use references in C++
- Use references as function arguments in C++
- Use references as function return values in C++
- Use asserts for troubleshooting in C++ programs
- Implement exception handling in C++ programs
- Use nothrow new to suppress allocation exceptions in C++
- Use the C++ string class
- Use the C++ wide string class
- Work with C-style string in C++
- Work with null terminated strings in C++
- Declare a namespace in C++
- Use a namespace in C++
- Create a namespace alias in C++
- Create a C++ application using the std namespace
- Create an application that uses C++ functions, exceptions, and strings

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.8	Beginner

## 60 C++ Classes

### Overview/Description

A class defines what an object is and includes the data and functions for manipulating that data. Discover how to correctly define and use classes in your C++ programs.

### Lesson Objectives

- Create a class in C++
- Add a private member to a class in C++
- Add a protected member to a class in C++
- Add public members to a class in C++
- Create a class constructor in C++
- Create a class destructor in C++
- Create a class with overloaded constructors in C++
- Create a class with a default constructor in C++
- Create a pointer in C++
- Create a struct in C++
- Create a union class type in C++
- Create a class with overloaded operators in C++
- Create and use classes in a C++ application

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.1	Beginner



## 61 Classes, Functions, and Object-oriented Programming

### Overview/Description

Object-oriented programming is based on the use of objects created from class definitions. Explore the basics of creating custom classes and object-oriented programming principles such as encapsulation and inheritance in C++.

### Lesson Objectives

- **Overload operators in C++ custom classes**
- **Pass objects as function arguments in C++**
- **Create C++ virtual functions**
- **Create abstract and interface classes in C++**
- **Create a class using the "this" keyword in C++**
- **Create a C++ class with static members**
- **Declare a friend function in C++**
- **Declare a friend class in C++**
- **Create a class in C++ that utilizes encapsulation**
- **Create a C++ class with inheritance**
- **Create a C++ class with multiple inheritance**
- **Create an application that incorporates OOP techniques**

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.1	Beginner

## 62 C++ Templates and Containers

### Overview/Description

Containers are implemented as class templates and are used to replicate structures such as arrays, queues, stacks, and lists. In this course, you'll learn how to use templates and containers in your C++ programs.

### Lesson Objectives

- **Describe the key features of C++ templates, including when they should or shouldn't be used**
- **Declare and use a function template in C++**
- **Declare and use a class template in C++**
- **Describe the key features of Standard Template Library sequential containers including when they should or shouldn't be used**
- **Write a C++ program using a list from the Standard Template Library**
- **Write a C++ program using a vector from the Standard Template Library**
- **Write a C++ program using deque from the Standard Template Library**
- **Write a C++ program using array from the Standard Template Library**
- **Write a C++ program using a queue from the Standard Template Library**
- **Write a C++ program using priority queue from the Standard Template Library**
- **Write a C++ program using a stack from the Standard Template Library**
- **Describe the key types and features of Standard Template Library associative containers including when they should or shouldn't be used**
- **Write a C++ program using a set from the Standard Template Library**
- **Write a C++ program using a map from the Standard Template Library**
- **Demonstrate how to incorporate objects into set and map**
- **Demonstrate how to work with sequential and associative containers in C++**



Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.4	Intermediate

## 63 C++ Standard Template Library Algorithms and Operations

### Overview/Description

The C++ Standard Template Library is a set of template classes that let you easily implement common algorithms and data structures. Explore the Standard Library algorithms and operations, including sorting and merging.

### Lesson Objectives

- Describe the key features of Standard Template Library algorithms including nonmodifying vs. modifying
- Use the `std::for` each expression in C++
- Recognize iterators using `find` in C++
- Use the `std::find if` in C++
- Demonstrate how to use nonmodifying algorithms with containers
- Use iterators to copy and move in C++
- Use `std::replace` in C++
- Demonstrate how to use modifying algorithms with containers
- Use `std::sort` expression in C++
- Recognize iterators using `sort` in C++
- Use Standard Template Library Sorting with Containers in C++
- Use Standard Template Library Sorting with Objects in C++
- Use `std::merge` in C++
- Use `std::includes` in C++
- Work with Standard Template Library Operations for sets in C++
- Work with modifying, nonmodifying, sorting, and merging algorithms and operations in C++

Target Audience	Expected Duration (hours)	Expertise Level
Individuals looking to learn C++ programming, or experienced C++ programmers wishing to refresh or improve their skills	1.4	Intermediate

## 64 Information Security: Hardened Security Topologies

### Overview/Description

In this 8-video course, learners will discover the key concepts of different security topologies and the key role they play in network security. Begin with an introduction to security topologies, which define the network design based on security requirements. You will then explore the design goals for security topology, the elements used to ensure that the information is secure, which means that you need the concepts of confidentiality, integrity, and availability (CIA), of information in a proper way, and it needs to be secured. You also need to practice accountability along with CIA concepts. Next, you will examine advantages and disadvantages of different security topologies, which are the Intranet, the Internet, and various other topologies. You will take a look at the impact of integrating cloud topologies, and also delve into the various layers of security in cloud computing. The final tutorial in this course explores the different methods used to harden the components of security topologies.

### Lesson Objectives

- Define security topologies
- Describe the elements used in designing goals of a security topology
- List the advantages and disadvantages of different security topologies
- Describe the impact of integrating cloud topologies
- List the various layers of security in cloud computing
- Name the different methods used to harden security topologies

Expected Duration (hours)	Expertise Level
0.7	Beginner

## 65 Information Security: Continual Infrastructure Testing

### Overview/Description

Discover DevOps practices such as continuous security and security monitoring, the benefits of using DevOps, and best practices of DevOps security in this 11-video course. Explore the secure DevOps lifecycle and learn about security risks and the various tools used for DevOps testing. Key concepts covered in this course include continuous security practices and the need for continuous security in a DevOps environment; the benefits of using DevOps including improved quality, saving money, and saving time by not having to integrate code at the later stage; and the components of DevOps and their impact on the infrastructure security. Next, learners will examine the best practices of DevOps security and learn the secure DevOps lifecycle; and learn security risks that come with DevOps and tools that can help aid with continuous security infrastructure testing. Finally, learn the security risks of DevOps; and the various tools used for DevOps testing, as in each stage of DevOps certain types of tools will be used.

### Lesson Objectives

- **Define continuous security practices**
- **Identify the need for continuous security in a DevOps environment**
- **Describe the importance of continuous security**
- **List the benefits of using DevOps**
- **Define continuous security monitoring and list its benefits**
- **Identify the best practices of DevOps security**
- **Define the secure DevOps lifecycle**
- **Identify the security risks of DevOps**
- **List the various tools used for DevOps testing**

Expected Duration (hours)	Expertise Level
0.7	Beginner

## 66 Information Security: Security Governance

### Overview/Description

In this 9-video course, learners will discover the importance of implementing security governance in an organization. Explore differences between security governance and security management, types of governance frameworks, and the roles of senior management. Also covered are ensuring good IT security governance, risks and opportunities, security governance programs, and governance framework structure. Key concepts covered in this course include how to distinguish between security governance and security management; learning about different types of IT governance frameworks including ISO 27001, PCI DSS, HIPAA (Health Insurance Portability and Accountability Act), ITIL, and COBIT; and learning the various roles and responsibilities of senior management in governance; learn the measures used to ensure good IT security governance including creating governance within an organization, delivering governance through the right stakeholders. Next, observe how to review governance on a periodic basis; learn the risks and opportunities in security governance and making sure the security policies are up to date; and examine the process of rolling out a security governance program. Finally, you will examine the structure of a governance framework.

### Lesson Objectives

- **Distinguish between governance and management**
- **Describe the different types of IT governance frameworks**
- **Identify the various roles and responsibilities of senior management in governance**
- **List the measures used to ensure good IT security governance**
- **Identify the risks and opportunities in security governance**
- **Describe the process of rolling out a security governance program**
- **Describe the structure of a governance framework**

Expected Duration (hours)	Expertise Level
1.2	Beginner



## 67 Information Security: Honeypots

### Overview/Description

Explore various honeypot concepts, such as the types of honeypots, roles and uses of a honeypot, and how honeypot data analysis is used. In this 12-video course, you will examine strengths and weaknesses of a honeypot and how it is placed in networks. Key concepts covered in this course include the honeypot system itself, configured to detect, deflect, or counteract any unauthorized attempt to gain access to information; learning the various types of honeypots that can be used focusing on low and high interaction level types; and learning about the role played by honeypots in overall network security. Next, you will examine honeypot uses and disadvantages; learn the deployment strategies of a honeypot; and learn the various open-source and commercial honeypot products available on the market. Finally, learners will observe how honeypots are placed in a network; how to install and configure a honeypot by using KFSensor honeypot software; and explore how honeypot data analysis is captured through automated software or through a manual method.

### Lesson Objectives

- Describe a honeypot
- Classify the various types of honeypots that can be used
- Describe the role played by honeypots in overall network security
- List honeypot disadvantages
- Describe honeypot uses
- Recognize the deployment strategies of a honeypot
- List the various open-source and commercial honeypot products available in the market
- Specify how honeypots are placed in a network
- Install and configure a honeypot using KFSensor honeypot software
- Describe how honeypot data analysis is conducted

Expected Duration (hours)	Expertise Level
0.6	Beginner

## 68 Information Security: Pen Testing

### Overview/Description

Explore the key penetration (pen) testing concepts such as vulnerability assessment, types of pen testing, and threat actors, in this 14-video course. Discover why pen testing is needed and investigate tools used for pen testing. Key concepts covered in this course include pen testing, a set of tasks that are performed by ethical hackers against an organization, but in a legal way; steps performed during the pen testing process; and reasons why an organization needs to perform pen testing and distinguish between pen testing and vulnerability assessments. Next, you will compare the different types of pen testing and learn the weaknesses of pen testing; learn the various types of tools used in pen testing and the target selection for pen testing; and learn the types of assets in an organization; compare the types of risk responses that an organization may adapt. Finally, learners observe how to use the Metasploit framework in Kali Linux; and how to create an exploit by using MSFvenom.

### Lesson Objectives

- List the steps performed during the pen testing process
- Specify the reasons an organization needs to perform pen testing
- Distinguish between pen testing and vulnerability assessments
- Compare different types of pen testing
- List the weaknesses of pen testing
- Identify the various types of tools used in pen testing
- Describe the target selection for pen testing
- Identify the threat actors
- Describe the types of assets in an organization
- Compare the types of risk responses that an organization may adapt
- Use the Metasploit framework in Kali Linux
- Create an exploit using MSFvenom

Expected Duration (hours)	Expertise Level
1.6	Beginner

## 69 Information Security: APT Defenses

### Overview/Description

In this 13-video course, discover key Advanced Persistent Threat (APT), concepts such as defense and best practices. Explore common APT attacks and mitigation techniques that can be used, APT tools, and how to create effective APT checklists. You will begin with an introduction to APT and its purpose, then look at the steps of the APT lifecycle. Learners will examine motives behind an APT and probable targets, and learn to identify APT defense best practices. Next, you will explore methods that can be used to strengthen APT defenses, and then recall the method(s) to deal with APTs. You will then take a look at the Equation aka APT group and its involvement in various cyber crimes. Another tutorial examines the key tools that are used when conducting an APT. Define risk assessment processes that can help you protect your assets. In the final tutorial in this course, you will be asked to identify key points for creating an effective checklist to address APT attacks.

### Lesson Objectives

- **Define an Advanced Persistent Threat and its purpose**
- **List the steps of the APT lifecycle**
- **Describe the motives behind an APT and the probable targets**
- **Identify APT defense best practices**
- **Identify the methods that can be used to make the APT defenses stronger**
- **Recall the method(s) to deal with Advanced Persistent Threats**
- **Describe the Equation AKA APT group and its involvement in various cyber crimes**
- **List the tools that are used when conducting an APT**
- **Define risks and recall methods used to response, reduce, avoid, accept, and transfer risks**
- **Define the risk assessment processes that can help you protect your assets**
- **Identify the key points for creating an effective checklist to address APT attacks**

Expected Duration (hours)	Expertise Level
1.4	Beginner

## 70 Information Security: NACs & Gateways

### Overview/Description

Learners will discover key features of network access control (NAC), the importance of NAC in a network, various NAC elements, authentication, and its implementation, in this 12-video course. Explore the risks and challenges associated with BYOD—which means “bring your own device”—and IoT, which is Internet of Things. You will begin the course by examining the security risks introduced by BYOD and IoT, along with their preventive measures. You will then explore the major challenges with BYOD in an organization. The next tutorial defines NAC and the importance it has in a network. This leads into examining the NAC architecture; the different features of NAC; and the impact of an improperly configured NAC. You will learn about the various NAC elements; recall the best practices of implementing NAC, and identify the key points for creating an effective checklist for NAC security. In the final tutorial, learners will be asked to list the NAC authentication methods.

### Lesson Objectives

- **Identify the security risks introduced by BYOD and IoT along with their preventive measures**
- **List the major challenges with BYOD in an organization**
- **Define NAC and the importance it has in a network**
- **Illustrate the NAC architecture**
- **List the different features of NAC**
- **Describe the impact of an improperly configured NAC**
- **List various NAC elements**
- **Recall the best practices of implementing NAC**
- **Identify the key point for creating an effective checklist for NAC Security**
- **List the NAC authentication methods**

Expected Duration (hours)	Expertise Level
0.6	Beginner



## 71 Information Security: Subnetting & DNS for Security Architects

### Overview/Description

In this 11-video course, learners will discover key concepts related to subnetting, virtual machines (VMs), container, and DNS (domain name system) security. Examine tips and tricks used in subnetting and subnetting advantages. Explore classless inter-domain routing (CIDR), notation, deployment and security considerations for VMs and containers, and types of DNS attacks and mitigation strategies. You will begin the course by taking a look at the importance of subnetting, how it relates to security, and its advantages and disadvantages. Then move on to defining the CIDR notation. You will examine the subnetting cheat sheet, and learn various subnetting tips and tricks; compare VMs and containers, and examine the deployment considerations for VMs and containers. Next, learners will observe the best practices for deploying VMs, and the best practices for VM and container security. In the final two tutorials of this course, you will discover the various types of DNS attacks and their mitigations, and the various types of subnetting attacks and mitigations.

### Lesson Objectives

- Describe subnetting and its advantages
- Define the CIDR notation
- Recognize subnetting tips and tricks
- Compare VMs and containers
- Describe the deployment considerations for virtual machines and containers
- Recognize best practices for deploying virtual machines
- Recognize best practices for VM and container security
- Describe the various types of DNS attacks and their mitigations
- Recognize the various types of subnetting attacks and mitigations

Expected Duration (hours)	Expertise Level
1.1	Beginner

## 72 Information Security: Securing Networking Protocols

### Overview/Description

Learners can explore the key concept of the common protocols in use, and discover the security issues of the transmission control protocol/Internet protocol (TCP/IP) model and security protocols, in this 10-video course. You will begin by taking a look at the common protocols used in a network, the ports they use, and the type they are and what they do. Next, you will examine some of the security issues of the TCP/IP model at the layer level, of which it has four: application, transport, Internet, and data link. You will also explore the threats, vulnerabilities, and mitigation techniques in network security; identify the types of weak protocols and their replacements; and classify the various types of security protocols. Then learners will continue by examining various ways to use security protocols in different situations; the importance of implementing security protocols. In the final tutorial, learners will explore the security-first mindset and its necessity.

### Lesson Objectives

- List the common protocols used in a network
- Identify some of the security issues of the TCP/IP model at the layer level
- List the threats, vulnerabilities, and mitigation techniques in a network security
- Identify the types of weak protocols and their replacements
- Classify the various types of security protocols
- Identify the ways to use security protocols in different situations
- Describe the importance of implementing security protocols
- Describe the security-first mindset and its necessity

Expected Duration (hours)	Expertise Level
0.9	Beginner

## 73 Ethical Hacker: Account Creation

### Overview/Description

Because account management and access control are fundamental to security, it is vital to understand these technologies as an ethical hacker. In this 6-video course, learners can explore account creation concepts, standard access control models, attribute-based access control, and how to design account and access control. Key concepts covered in this course include learning about account creation, and why how an organization creates and manages accounts is fundamental to security; common attack methodologies; and how to test accounts in a network. Next, you will learn about three fundamental access models that are utilized by a wide range of systems and include mandatory access control (MAC), discretionary access control (DAC), and the most common one, role-based access control (RBAC). Then observe how to implement attributed-based access control (ABAC) and its advantages over standard access control; and learn to design your account and account management processes by selecting one of the three fundamental models to use for a test design for an organization.

### Lesson Objectives

- **Recognize account creation concepts**
- **Describe and implement MAC, DAC, and RBAC**
- **Describe ABAC and its advantages over standard access control**
- **Design access control and account management processes**

Expected Duration (hours)	Expertise Level
0.3	Intermediate

## 74 Ethical Hacker: Risk Assessment

### Overview/Description

Ethical hacking is about testing the risk level of an organization. In order to perform effective, professional ethical hacking, a knowledge of risk is essential. In this 10-video course, you will discover how to use the Common Vulnerability Scoring System (CVSS) and how to apply risk management concepts and evaluate risk in accordance with common standards. Key concepts covered in this course include learning to calculate risk levels in a quantitative manner, the preliminary step done in any risk assessment; learning to identify and implement specific responses to risk assess security vulnerabilities by using CVSS; and utilizing the CIA triangle (confidentiality, integrity, and availability) and the McCumber cube to assess risks and threats. Next, learn to apply risk management standards according to NIST 800-37; evaluate security in accordance with ISO/IEC 18045; and learn the COBIT 5 standard, a widely-known standard and way of modeling risk and security. Finally, learn to use Damage, Reproducibility, Exploitability, Affected Users, Discoverability (DREAD), Process for Attack Simulation and Threat Analysis (PASTA), and other risk models.

### Lesson Objectives

- **Calculate risk levels in a quantitative manner**
- **Identify and implement specific responses to risk**
- **Assess security vulnerabilities using CVSS**
- **Utilize the CIA triangle and the McCumber cube to assess risks and threats**
- **Apply risk management standards according to NIST 800-37**
- **Evaluate security in accordance with ISO/IEC 18045**
- **Describe the COBIT 5 standard**
- **Describe and use DREAD, PASTA, and other risk models**

Expected Duration (hours)	Expertise Level
0.8	Intermediate



## 75 Ethical Hacker: Incident Response

### Overview/Description

Ethical hacking is a means to avoid incidents and to discover them before they are realized. Often, ethical hacking is part of the response to an incident, so an understanding of incident handling is important for the ethical hacker. In this 10-video course, you will explore the foundational concepts of incident response, including incident classification, recovery and remediation, and after-action review. Key concepts covered in this course include incident response concepts that can be applied, whether a situation is a cyber incident, an insider issue, a physical disaster, or other type; learning to properly classify and describe different types of incidents; and learning to create a response plan for physical incidents. Learners continue by observing how to create a response plan for cyber incidents; how to apply basic incident response forensics including evidence handling and basic techniques; and how to apply basic incident response forensics, including imaging a drive and basic legal standards. Finally, learn to conduct recovery and remediation activities; and conduct an after-action review of incident response.

### Lesson Objectives

- Describe incident response concepts
- Properly classify and describe different types of incidents
- Create a response plan for physical incidents
- Create a response plan for cyber incidents
- Describe and apply basic incident response forensics including evidence handling and basic techniques
- Apply basic incident response forensics including imaging a drive and basic legal standards
- Conduct recovery and remediation activities
- Conduct an after action review of incident response

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 76 Ethical Hacker: Security Standards

### Overview/Description

Ethical hacking is not just random hacking attempts; it is a systematic testing of the target's security. For that reason, an understanding of security standards and formal testing methodologies is critical. Key concepts covered in this 11-video course include security standards such as NIST 800-115, a security standard which is integrally interconnected with ethical hacking and testing; and NIST 800-53, a security standard that can help users to professionalize and improve an ethical hacking test. Next, learn how to properly apply filtering and data validation; how to apply the NSA-IAM to ethical hacking to plan, execute, and report on your ethical hacking project; and how to apply the PTES to ethical hacking to plan, execute, and report on your ethical hacking project. Then learn about PCI-DSS standards and how to integrate them into ethical hacking; learn how to implement ISO 27001; and learn to interpret and apply NIST 800-12. Finally, learners observe how to employ NIST 800-26 standards to manage IT security; and learn about NIST 800-14 security protocols.

### Lesson Objectives

- Describe secure software concepts
- Properly apply filtering and data validation
- Apply the NSA-IAM to ethical hacking to plan, execute, and report on your ethical hacking project
- Apply the PTES to ethical hacking to plan, execute, and report on your ethical hacking project
- Describe PCI-DSS standards and integrate them into ethical hacking
- Describe and implement ISO 27001
- Interpret and apply NIST 800-12
- Employ NIST 800-26 standards to manage IT security
- Describe NIST 800-14 security protocols

Expected Duration (hours)	Expertise Level
0.7	Intermediate



## 77 Ethical Hacker: Secure Technology & Applications

### Overview/Description

Security devices and software are the technical aspect of security. An ethical hacker must be familiar with security technology in order to effectively conduct tests of the target organization's network. In this 10-video course, you will explore firewall types and usage, SIEM systems, intrusion detection systems and intrusion prevention systems (IDS/IPS), antivirus strategies, Windows Firewall, and how to implement Snort. Key concepts covered in this course include security devices and software concepts, and how they relate to ethical hacking; learning to correctly deploy firewall solutions, their relevance to ethical hacking, and different types and usage; and learning the role of SIEM (security information and event management) and how to deploy SIEM systems. Next, learners observe how to utilize IDS/IPS and its relationship to ethical hacking; learn antivirus concepts and implement an AV strategy; configure the firewall in Windows 10 and Windows Server 2019; and learn to configure Windows Defender. Conclude by learning how to implement basic Snort network IDS, a tool that can be used for simple packet capture or for IDS.

### Lesson Objectives

- Describe security devices and how they relate to ethical hacking
- Correctly deploy firewall solutions and describe their relevance to ethical hacking
- Describe the usage of SIEM and deploy SIEM systems
- Describe and utilize IDS/IPS and describe its relation to ethical hacking
- Describe antivirus concepts and implement an AV strategy
- Configure the firewall in Windows 10 and Windows Server 2019
- Configure Windows Defender
- Implement basic Snort IDS



Expected Duration (hours)	Expertise Level
0.7	Intermediate

## 78 Ethical Hacker: Scanning

### Overview/Description

One of the early stages in ethical hacking is reconnaissance of the target. In this 10-video course, you can explore various scanning tools and techniques used in ethical hacking, including Nmap, OWASP ZAP, Vega, Shodan, and specialized Google searches. Key concepts covered in this course include how to use Nmap, an open-source network scanner and one of the most widely-used scanning tools for scanning a target system or network; how to use OWASP ZAP, an open-source web application security scanner, to scan a target website; and how to use Vega, an open-source web security scanner and testing platform, to scan a target website. Next, learners observe how to use the Shodan search engine to gather information about vulnerabilities, its purpose and usage, and the role it plays in ethical hacking and penetration testing. Finally, learn how to use multiple informational websites to gain information about a target; and apply specialized advanced Google searches to find information for ethical hacking.

### Lesson Objectives

- Describe NMAP and how it can be used
- Use NMAP to scan a target system or network
- Use OWASP ZAP to scan a target web site
- Use Vega to scan a target web site
- Describe the Shodan search engine, its purpose and usage, and the role it plays in ethical hacking and penetration testing
- Use Shodan to gather information about vulnerabilities
- Use multiple informational web sites to gain information about a target
- Apply specialized Google searches to find information for ethical hacking

Expected Duration (hours)	Expertise Level
0.6	Intermediate

## 79 Ethical Hacker: Hacking Techniques

### Overview/Description

Ultimately, ethical hacking is about hacking, so the ethical hacker must have some hands-on hacking skills. Explore fundamental hacking techniques in this 14-video course: SQL injection, cross-site scripting (XSS), malware, using viruses, DoS attacks, steganography, using Metasploit, and Windows hacking. Key concepts covered here include how to use SQL injection and variations; how to execute basic SQL Injection; and learning how to recognize XSS, an attack on the user via the website, as opposed to attacks on the website via the user. Next, learners examine malware threats and learn how to recognize and describe types of malware; learn to implement an innocuous virus in penetration testing; and learn the types of DoS and associated countermeasures. Continue by learning how steganography works, a technique important to ethical hacking because it is a favorite technique to exfiltrate data from malicious insiders; and the basics of Metasploit, a penetration-testing software that finds security issues, verifies vulnerability mitigations, and manages security assessments. Finally, learn to execute basic Metasploit commands; and learn to use common Windows hacking techniques.

### Lesson Objectives

- Describe SQL injection and variations
- Execute basic SQL Injection
- Describe cross-site scripting
- Describe malware threats
- Recognize and describe types of malware
- Implement an innocuous virus in penetration testing
- Recognize types of DoS and associated counter measures
- Describe how steganography works
- Use common steganography tools
- Recall the basics of Metasploit
- Execute basic Metasploit commands
- Use common Windows hacking techniques

Expected Duration (hours)	Expertise Level
1.1	Intermediate

## 80 Malware Removal: Identifying Malware Types & Classification Approaches

### Overview/Description

Knowing how to respond to malware incidents is a critical skill for security professionals, and the first step to achieving malware response skills is understanding the types of malware you will face in the field. In this course, you'll explore different types of malware such as worms, Trojan viruses, botnets, ransomware, and rootkits. You'll then round out your knowledge by identifying the different methods used to classify a virus and determine its potential impact.

### Lesson Objectives

- Identify different types of malware attacks
- Describe worm viruses and Trojan viruses and how to prevent them
- Describe ransomware and how to prevent it
- Describe symptoms of an infected system
- Recognize what tools are best to use to fight against malware
- Classify the severity of malware

Expected Duration (hours)	Expertise Level
0.4	Beginner

## 81 Malware Removal: Analyzing an Infected System

### Overview/Description

Familiarization with the different types of malware analysis and the tools used to analyze malware is a critical skill for IT security professionals. In this course, you'll explore the characteristics of malware and the impact the malware has on the infected system. You'll learn how to identify different malware analysis techniques, such as static and dynamic malware analysis, to discover activities performed by malware. You'll also examine some of the tools used to perform both static and dynamic malware analysis and how to use a disassembler to view malware code.

### Lesson Objectives

- **Recognize why malware analysis is important**
- **Describe the purpose of static malware analysis**
- **Identify the purpose of dynamic malware analysis**
- **Recognize common malware characteristics at the Windows API level (registry manipulation, keylogging, HTTP communications, droppers)**
- **Inspect the static properties of malware**
- **Perform dynamic malware analysis**
- **Recognize the impacts of the malware you discover**
- **Locate open ports and running processes used by malware and terminate the malware process**
- **Use tools to monitor malware processes**
- **Use Wireshark to monitor malware network activity**
- **Inspect malicious code and follow program control flow to recognize decision points during execution**

Expected Duration (hours)	Expertise Level
1.8	Beginner

## 82 Malware Removal: Remediate an Infected System

### Overview/Description

Understanding what tools to use to recover a system after it is infected with malware is a critical skill. In this course, you'll explore the symptoms of virus infected systems and best practices for malware removal. You'll learn about different remediation approaches for different types of malware. You'll also look at some of the tools used to remove and recover systems after they have been infected such as the Windows Malicious Software Removal Tool, the Windows repair options, and how to restore a system image backup.

### Lesson Objectives

- **Describe symptoms of an infected system**
- **Recognize best practices for removing malware**
- **Identify different remediation approaches for various types of malware**
- **Remove a virus from an infected system**
- **Use System Restore to remove a virus**
- **Use the System Restore recovery tool and restore points**
- **Restore a system backup**
- **Recognize when to remove vs. complete re-install**
- **Identify the steps to use when malware makes a system unbootable**
- **Use system repair to fix boot issues**

Expected Duration (hours)	Expertise Level
0.8	Beginner



## 83 Malware Removal: Reporting Findings & Preventing Future Infections

### Overview/Description

Knowing how to respond to a malware incident and who to report the malware incident to is critical to a timely response. In this course, you'll learn key steps for responding to malware incidents, as well as how to identify key persons to report the malware incident to and steps to take to help prevent future malware incidents.

### Lesson Objectives

- **Identify key steps when responding to malware incidents**
- **Recognize who needs to be informed of malware attacks**
- **Recognize next steps to ensure you are better protected from future malware attacks**
- **Identify preparation steps to plan for recovery**
- **Create a system image to use in recovery after a malware attack**

Expected Duration (hours)	Expertise Level
0.5	Beginner

## 84 Security Risks: Key Risk Terms & Concepts

### Overview/Description

Familiarity with key terms and concepts associated with security risk enables security leaders to identify, evaluate, and prioritize security risks. In this course, you'll get familiar with the terminologies, activities, and concepts associated with a security risk management process. You'll start by discovering the interdependence between assets, vulnerabilities, threats, and risks. You'll then investigate how to assess risk probability, measure the impact created by it, and the difference between risk appetite and risk tolerance. Next, you'll examine the components, benefits, and stages of a risk management process. You'll also identify different methods of treating risk and the importance of implementing controls as a part of a risk-based approach. Lastly, you'll recognize the standards for risk management and the advantages of managing and assessing security risk.

### Lesson Objectives

- **Outline how risks are related to assets**
- **Identify the similarities and differences between likelihood and probability assessment**
- **Recognize the role of vulnerabilities in risks and the correlation between risk and threat**
- **Outline risk probability, the impact generated by it, and how to measure it using a risk score**
- **Describe risk severity and identify various risk security levels**
- **Identify potential risks that may exist within an organization and differentiate between risk appetite and risk tolerance**
- **Define the concept and advantages of a risk management process**
- **Recognize the importance of a risk management plan and identify its components**
- **Describe the role of a risk register in managing risk and outline the elements of risks listed within it**
- **Describe the features of different risk treatment methods**
- **Recognize the importance of managing risk and implementing a risk-based approach**
- **Outline the elements of the COBIT 5 framework and describe the ISO 31000 standard for risk management**
- **List the three key stages of a risk management process: risk identification, risk assessment, and risk management**
- **Illustrate the importance of security risk assessment in preempting and preparing for risks, prioritizing risks, and identifying assets to be protected**

Expected Duration (hours)	Expertise Level
1.9	Beginner

## 85 Security Risks: Performing Security Risk Identification

### Overview/Description

Knowing how to respond to a malware incident and who to report the malware incident to is critical to a timely response. In this course, you'll learn key steps for responding to malware incidents, as well as how to identify key persons to report the malware incident to and steps to take to help prevent future malware incidents.

### Lesson Objectives

- Identify the differences between threat and risk
- Recognize the purpose and importance of risk identification
- Outline the risk identification process and recognize organizational components impacted by risk
- Distinguish between different methods used for risk identification
- List the best practices used for risk identification and identify the benefits of the process
- Recognize the characteristics and functions of a risk register
- Demonstrate the method to create a risk register in Microsoft Excel

Expected Duration (hours)	Expertise Level
1.0	Beginner

## 86 Security Risks: Performing Security Risk Assessments

### Overview/Description

The categorization of security risks is essential for effectively assessing and managing risk. In this course, you'll explore the assessment, classification, and prioritization of security risks. You'll begin by outlining the concept of risk assessment and the advantages of different risk assessment techniques. You'll also investigate the features of security assessment methods, such as vulnerability assessment and penetration testing, and discover how to assess security vulnerability. Moving on, you'll recognize the significance of risk categorization and how to update a risk register in Microsoft Excel using a four-quadrant risk classification matrix. Finally, you'll identify the purpose and process of risk prioritization, and the role of a probability-impact matrix in determining risk levels. You'll then investigate how to use the matrix to prioritize risks on a security risk register.

### Lesson Objectives

- Define the concept, advantages, and activities of risk assessment
- List different types of risk assessment
- Describe the characteristics of qualitative risk assessment along with its advantages and disadvantages
- Describe the characteristics of quantitative risk assessment along with its advantages and disadvantages
- Identify vulnerability assessment and penetration testing as security assessment methods
- Demonstrate security vulnerability assessment
- Outline risk categorization using the four-quadrant risk classification
- Illustrate how to update a risk register in Microsoft Excel
- Recognize the importance of prioritizing risks
- Outline the role of probability-impact matrix in prioritizing risks
- Demonstrate how to prioritize risks in a security risk register using a probability-impact matrix

Expected Duration (hours)	Expertise Level
1.6	Beginner



## 87 Security Risks: Planning for Security Risk Management

### Overview/Description

Highly effective security leaders recognize that they must prioritize and focus their efforts on managing critical security risks. Therefore, once a security risk is identified, it must be carefully evaluated. In this course, you'll identify the activities involved in a risk management process, the importance of risk strategies in the context of work environments, and essential decisions required for managing security risks effectively. Moving on, you'll investigate the components of a risk management plan and how to improve a risk management strategy by increasing risk tolerance and risk appetite. You'll also outline the importance of mitigation plans and discover how to create one in Microsoft Word. Lastly, you'll recognize the role of risk monitoring and control measures in risk management planning and the factors that shape an organization's approach to making decisions in handling risks.

### Lesson Objectives

- Describe the purpose of risk management and list the best practices
- Outline the stages and activities in a risk management process
- Identify the components of a risk management plan and recognize different risk categories
- List the elements of a risk management plan and the steps involved in creating one
- Describe the features of a risk mitigation plan and its role in risk management
- Create a risk mitigation plan in Microsoft Word
- Outline the factors that influence risk tolerance and risk appetite and the differences between them
- Examine the concept of risk monitoring and control measures and list their outcomes in risk management planning
- Recognize the importance of treating risks and list different risk strategy methods
- Describe the role of decision making in managing risks

Expected Duration (hours)	Expertise Level
1.5	Beginner





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