WFV1 - IT Fundamentals I
Course of Study

This course of study outlines the sequence of learning activities needed to develop your skills in the subject area of IT Fundamentals I. The assessment used to evaluate competence is the CIW Foundations 1D0-510 Certification Exam. This course of study will take about eight weeks to complete, depending on your experience and time commitment. Consult with your mentor if you wish to accelerate through this course of study. It is important that you follow the activities sequentially as you prepare for your assessment.

Introduction

WFV1 (IT Fundamentals I) is special because it is the first IT assessment in your program and the only one that all IT students must take. Its job is to introduce you to a broad range of IT topics from e-commerce (Internet Business Foundations) to website development (Site Development Foundations) to networks (Network Technology Foundations). When you have finished acquiring the competencies associated with IT Fundamentals I, you will have in hand the first of several industry certifications: the CIW associate.

If you are considering a career in IT, WFV1 is a great first course because of its broad coverage. At the end of the course, you should have a better idea about where you want to fit so that you can better focus your efforts as your degree program progresses. If you have experience and a career in IT, preparing for this assessment may help you to both recall the basics and sharpen focus on ideas and technologies outside your realm of expertise. Those with experience may also find a new calling, which is helping those just getting started. To that end, your participation in the message board associated with this course of study is both welcome and appreciated.

Finally, WFV1 is fun. It is an awesome feeling to get up from a long study session in which many light bulbs turned on. You must study, though, for that to happen. Avoid the temptation to gloss over what you believe is familiar material; you may miss the switch for one of those light bulbs.

There are four competencies covered by this course of study for WFV1. They are listed below:

Competency: Networked Resources
The graduate demonstrates a basic working knowledge of networked resources.

Competency: Hardware/Software and Internet
The graduate describes the role and basic functioning of hardware and software needed for Internet business.

Competency: Web Sites
The graduate organizes and produces a simple but functioning Web site.

Competency: Advanced Web Technologies
The graduate demonstrates knowledge of Web browser function, use, configuration, and customization.

Required Learning Resources

Computer Prep textbooks and CDs (three volumes), as listed below:
Internet Business Foundations
Site Development Foundations
Network Technology Foundations

CIW v5 Foundations Exam Study Guide

CIW Foundations Self-Study Kit Companion CD-ROM (The files on the CD-ROM are referenced and used (hands-on labs) throughout the course.)

VCAMPUS–CIW Virtual Campus

ExamForce–CIW Foundations CramMaster (CIW 1D0-510 v5 Foundations)

LearnKey, Inc.–HTML Fundamentals (Optional)

SkillSoft library
Preparing for Success

IT Fundamentals I is the first IT course in the IT program. WFV1 does three things: First, it ensures that all IT students begin with a minimum skill and knowledge set. Second, it helps those with little or no experience to decide whether IT is an appropriate career choice for them. Third, for those with experience, it helps to fill in the holes. As you proceed, avoid the temptation to skip ahead because you think that you know something. Not only does the technology change, but also there is often more than one way to do things. What if the way you know is not the one on the exam? Study well, write down what puzzles you, and ask questions.

Topics

Acquire Learning Resources

Order the required materials early to give them time to arrive, and to give you time to become familiar with them.

Resources

Order the Required Texts
The required learning resources for WFV1 are a set of four Computer Preptexts and a CD:

- Internet Business Foundations
- Site Development Foundations
- Network Technology Foundations
- CIW v5 Foundations Exam Study Guide
- CIW Foundations Self-Study Kit Companion CD-ROM (The files on the CD-ROM are referenced and used (hands-on labs) throughout the course.)

Enroll through the "Learning Resource" tab of your AAP.

These materials are shipped directly to your home. Be sure to verify your correct mailing address with your mentor. These items cannot be shipped to a post office box unless you have an APO/FPO address! You should expect your materials between 5 and 10 business days.

Register for VCAMPUS
VCAMPUS is a complementary resource included with your ComputerPrep enrollment. VCAMPUS provides online exercises, review and practice questions.
Upon enrollment in the ComputerPrep learning resource, you will receive an email notification regarding VCAMPUS. This email provides instructions on how to register for VCAMPUS. Use VCAMPUS in conjunction with the course of study and the ComputerPrep textbooks.

**Enroll in LearnKey (Optional)**

LearnKey, Inc. offers excellent online video tutorials on several topics. The optional video tutorial that will aid you in this course of study is called "HTML Fundamentals." If you would like more on HTML beyond what is provided in the primary text, enroll for LearnKey from your AAP. Shortly after your enrollment, you will receive an access e-mail directly from LearnKey. It will contain your username and password to access the materials on the website. If you cannot locate this e-mail, please send an e-mail to wgussetup@learnkey.com.

**Note the SkillSoft Offerings (Auto-enrolled, Optional Use)**

URL: http://wgu.skillport.com

All WGU students are automatically enrolled in SkillSoft, an online library of training modules useful for review and clarification. It also includes access to a free library of current eBooks (Books24x7), which is helpful when you feel the need to search for alternative explanations of content in the primary texts.

If you are not already familiar with SkillSoft, log in and look around. WGU students are batch-loaded into the SkillSoft site. You will need to do the following in order to access this library:

Access the SkillSoft site at the link above.

Enter your WGU (portal) username and original WGU password.

If you cannot remember your original WGU password, you can go to the "Forgot your Password?" portion of the page (near the bottom) or the link below, enter your WGU portal user ID, and the password will be sent to your my.wgu.edu e-mail address (http://wgu.skillport.com/SkillPortFE/login/newpwdform.cfm).

If you have any trouble, please contact the Learning Resources Department at Learning@wgu.edu. Keep in mind that batch-loads are done at the end of each week. If you have not met AAV, you may need to wait until the following week to gain access.

Of particular interest to IT students is the availability of mentoring and practice tests, which SkillSoft calls TestPrep. Be cautious with the TestPrep feature, though, because the questions are only indicative of your familiarity with the material in SkillSoft, not the real exams. The mentoring feature is extremely valuable because it connects to live chats with SkillSoft subject matter experts for the certification in question.

**Start a Notebook**
WFV1 covers a lot of material. Write things down that you must memorize, and keep your notebook handy. Do not assume that you will remember something; write it down. If you notice that a concept is mentioned more than once or twice, write it down. When you find yourself with an extra bit of time, carrying and reviewing a notebook is much easier than trying to manipulate a three-volume text set. Please also consider participating in the online notes or digital journal. As you engage with the activities throughout this course of study, you will be answering questions, completing exercises, sketching out concepts, and so forth. You have the ability to take these notes online through the web-enabled course of study. It also provides an excellent source of important materials to review prior to demonstrating your competence through the assessment.

**Pre-Assessments**

Pre-assessments will help you to focus your study efforts. Do not prepare ahead of time for this, and do not guess at the answers. Leave any question blank if you do not know the answer. The pre-assessment's purpose is to help you focus your study efforts.

**Resources**

**Refer for the WFV1 Pre-Assessment**

Go to the "Pre-assessment" tab of your AAP for WFV1 to refer for its pre-assessment, and notify your mentor that you need the MeasureUp key for WFV1.

Log in to your MyWGU Student Portal.

Go to the "My AAP" tab.

In the list below "Course Details," find the assessment you are working on.

In the "Assessment Preparation" column, click "Pre-assessment."

In the window that pops up, click "Click here to refer for this pre-assessment." A request will be sent to your mentor for approval.

Once your mentor has approved your request, return to the "My AAP" tab and click "Pre-assessment" in the "Assessment Preparation" column.

In the window that pops up, click "Click here to take this pre-assessment." You will then begin the pre-assessment.

**Take the Pre-Assessment**

Avoid these three things for the pre-assessment:
Studying for it in advance
Looking up answers while taking it
Guessing, instead of knowing, the correct answer

The purpose of the pre-assessment is to point out your weaknesses for more concentrated study. The above practices will skew the results, perhaps causing you to skip important material in your studies because you did well on those questions in the pre-assessment.

**Review the Coaching Report**
Results on the coaching report parallel our competencies and objectives and are easily linked to this course of study. Discuss the report with your mentor to develop a study strategy that helps you to strengthen weak areas.
Internet Business Foundations (Part I)

Marshall McLuhan introduced the concept of a global village to us in his book Understanding Media (1964). A belief that the Internet is the global village is widespread, and we apparently buy a lot at the "global village's" mall. Today, Internet business drives the need for much of what IT does, so it is important to understand it.

Topics

Information Technology and the Internet

Information Technology (IT) covers lots of territory. This topic introduces IT job roles, networks, and the Internet. Since the Internet is a network and understanding networks is often an area that gives students trouble as they progress in their programs, pay attention to the basics given here.

Resources

Pre-Assessment
Take the pre-assessment questions for lessons 1 and 2 of Computer Prep Internet Business Foundations. Use the questions as a guide for taking detailed notes on difficult material. Which were the toughest questions for you? The message board, available with the web-enabled course of study, is an excellent place to resolve difficult and interesting issues with other students and with the course mentor.

Lessons 1 and 2
Read lessons 1 and 2 of Computer Prep Internet Business Foundations. At the end of these lessons, you should know how to respond to the following prompts:

Which three IT job roles that you studied are your first, second, and third choices for a career in IT?

What is a network?

Describe the Internet as a network.

What methods are used to connect to the Internet?

What are the primary Internet protocols?

Why does DNS exist?

What are the parts of an Internet address?

What is crowdsourcing, social tagging, and semantic web?
NOTE: The CIW v5 Foundations hands-on labs can be completed without installing the Microsoft Vista operating system, and without setting-up the classroom workgroup environment. The labs can be completed on a PC with Windows XP or Windows 7. The only requirement is that your system must be able to access the Internet.

Complete labs 1-1, 1-2, 1-3, 1-4, 2-1, 2-2, and 2-3 in the order that you encounter them. Avoid looking at answers beforehand because you will learn more that way.

**Review for Lessons 1 and 2**
Complete the reviews for lessons 1 and 2 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. Try using small sticky notes to flag pages with problematic material on it; writing potential exam questions on the note could help.

**Web Browsing**

Which Internet browser do you use? Firefox? IE? Opera? This topic covers how to select, install, and set up a web browser, including how to troubleshoot common problems.

**Resources**

**Lesson 3 Pre-Assessment**
Take the pre-assessment for lesson 3 of Computer Prep Internet Business Foundations. Use the questions as a guide for taking detailed notes on difficult material, especially if you believe that the questions are browser-dependent. Keep these notes organized for later use in the notes area of the web-enabled course of study.

**Lesson 3**
Read the text material for lesson 3 of Computer Prep Internet Business Foundations. Read carefully because there is a good bit of technical detail in this lesson. At the end of this lesson, you should know how to answer the following questions:

- What do RSS and Atom do?
- What is the basic function of a web browser?
- How does one install a web browser?
- Identify the components of web addresses.
- What are the considerations in selecting a browser?
How do businesses use browsers?

How do you configure browser preferences?

What are some common browser-security settings?

Why use a proxy server?

What are some common problems with browsers, and how do you troubleshoot them?

What are the advantages and disadvantages of webcasts vs. in-person meetings?

Specifically, why do you like the browser that you currently use?

Complete labs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12. Do not take short cuts because the labs are an important part of owning the material.

Review for Lesson 3
Complete the review for lesson 3 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. If you decided against flagging hard material with sticky notes, have you found another way? Not keeping track of what gives you trouble is a sure way to forget.

Multimedia on the Web

When you are on the Internet, do you think that you spend more time reading or more time viewing and listening? This topic defines multimedia objects, introduces the languages used to manipulate them, and describes various plug-ins for engagement with multimedia files.

Resources

Lesson 4 Pre-Assessment
Take the pre-assessment for lesson 4 of Computer Prep Internet Business Foundations. Did you know what C++ was? Why was that question in a lesson about multimedia on the Internet? Have you considered using the message board to ask whether anyone has experience with C++?

Lesson 4
Read the text material for lesson 4 of Computer Prep Internet Business Foundations. There are many terms and acronyms, and flash cards are a good way to learn them. At the end of this lesson, you should know how to respond to the following prompts:

What is an object, and how is it related to multimedia?
What programming languages are associated with multimedia, and how are they related?

What are plug-ins for?

Name some common plug-ins and viewers.

Differentiate between various audio, video, and graphic file formats.

What is the process for downloading and storing files on your computer?

Complete labs 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7 and 4-8. Please do not take any shortcuts.

Lesson 4 Review
Complete the review for lesson 4 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. What was the most difficult concept for you to grasp about dealing with multimedia on the Internet?
Internet Business Foundations (Part II)

What happens when you fill out a form on a website? Where do the results on a search-engine results page come from? Do you think that there is too much communication? Internet business foundations continue with databases, Internet search engines, and e-mail.

Topics

Databases and Web Search Engines

A website without a database is like a library with only one book. How often would you visit that library?

Resources

Lesson 5 Pre-Assessment
Take the pre-assessment for lesson 5 of Computer Prep Internet Business Foundations. If you did not know the answers, be sure to return to it when you have finished lesson 4.

Lesson 5
Read the text material for lesson 5 of Computer Prep Internet Business Foundations. Start flagging difficult material now because database is a subject that stymies most students when they reach its associated assessment. At the end of this lesson, you should know how to respond to the following prompts:

What is a database, and what are its components?

How is a relational database different from other kinds of databases?

What is an Internet search engine, and how many different types of searches are there?

What does it mean to register a website with a search engine?

What distinguishes a basic search from an advanced search?

Define Boolean operators.

How are Internet search strategies related to unexpected Internet search results?

What is the proper way to cite copyrighted website information, and how do you evaluate the information found on a website?
Complete labs 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7 and 5-8. Did you have to repeat any labs? If you are having issues, be sure to visit with the course mentor for this area. Contact information is in the upper-right corner of the course screen.

**Lesson 5 Review**
Complete the review for lesson 5 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. If you now have more sticky notes than text pages, gather up your hard questions, and bring them to the message board and course mentor.

**E-Mail and Personal Information Management**

The computer is often charged with helping make bad decisions faster. Do you think that e-mail contributes to this opinion, or does it help to resolve the criticism? This topic covers the basics of e-mail and how to use e-mail clients.

**Resources**

**Lesson 6 Pre-Assessment**
Take the pre-assessment for lesson 6 of Computer Prep Internet Business Foundations. Chances are that e-mail is relatively familiar to you, but if POP (Post Office Protocol) and SMTP (Simple Mail Transfer Protocol) throw you for a loop, remember Post Office Pickup, and Send Mail To People!

**Lesson 6**
Read the text material for lesson 6 of Computer Prep Internet Business Foundations. At the end of this lesson, you should know how to answer the following questions:

- How does e-mail work?
- How do you configure an e-mail client?
- What are the components of an e-mail?
- What are some ways to use e-mail effectively at work?
- How do you resolve e-mail problems?
- What are the functions of PIM (personal information management) software?

Complete labs 6-1, 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8.
Lesson 6 Review
Complete the review for lesson 6 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong.
Internet Business Foundations (Part III)

Internet business foundations wraps up with discussions about Internet services and tools, security, and project management. There is lots of jargon in these lessons, so get ready to make additions to your flash card deck.

Topics

Internet Services and Tools

Do you know how to FTP? Can you subscribe to newsgroups? Why do you think peer-to-peer networks are a concern?

Resources

Lessons 7 and 8 Pre-Assessments
Take the pre-assessments for lessons 7 and 8 of Computer Prep Internet Business Foundations. How much do you know about Usenet? Add problem questions to your notebook.

Lessons 7 and 8
Read the text material for lessons 7 and 8 of Computer Prep Internet Business Foundations. You will likely encounter some confusing terms. Flash cards are a good way to learn them. If you are a parent, beware of Usenet newsgroups. At the end of this lesson, you should know how to respond to answer the following questions:

How do you use a news client? Telnet? FTP?
How do you manage downloaded files?
What is virtual network computing and Microsoft terminal services?
How do you use an instant-messaging client like WGU Messenger?
What are the functions of peer-to-peer networks?
What is LDAP, and what are its functions?
Why should concurrent version systems be a concern?
How do you troubleshoot TCP/IP problems?
What is meant by etiquette in using various services?
What are the key elements of a wiki?
Complete labs 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 7-7, 7-8, 7-9, 7-10, 7-11, 7-12, 7-13, 8-1, 8-2, 8-3, and 8-4. Read the steps carefully. If your computer is not doing what you think it should, check the message board posts for others with the same issue. You may be directed elsewhere for resolution.

**Lessons 7 and 8 Review**
Complete the reviews for lessons 7 and 8 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. This is a good place to write your own practice exam questions. What answers would make good, incorrect ones?

**Internet Security**

Along with the good comes the bad and the ugly. Do your family and friends call you when their computer gets a virus or their browser is hijacked? This topic covers encryption, authentication, firewalls, malware, viruses, and how to employ available tools to ensure security.

**Resources**

**Lesson 9 Pre-Assessment**
Take the pre-assessment for lesson 9 of Computer Prep Internet Business Foundations. Be certain to return with the answers to any problems you did not get. The message board available with the web-enabled course of study is an excellent place to resolve difficult and interesting issues with other students and with the course mentor. If you had trouble with an answer, use this tool to help you understand the correct answer.

**Lesson 9**
Read the text material lesson 9 of Computer Prep Internet Business Foundations. Do you know the difference between adware, spyware, viruses, and malware? At the end of this lesson, you should know how to respond to the following prompts:

- What are three types of encryption?
- How does authentication provide web security?
- How does a firewall provide web security?
- What is malware?
- Identify ways to detect and prevent virus attacks.
- What is spyware?
Patches and updates are important. Why?

How can a screen saver provide security?

What are list servers and LISTSERV groups?

What are some security-related, ethical, and legal issues faced by IT professionals?

Complete labs 9-1, 9-2, and 9-3.

**Lesson 9 Review**
Complete the review for lesson 9 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. Is security an easy or hard topic for you?

**IT Project Management**

IT projects that fail put major strain on resources. This topic describes how projects are managed and the considerations in constructing a project. Later in your program, there is an entire course of study devoted to project management.

**Resources**

**Lesson 10 Pre-Assessment**
Take the pre-assessment for lesson 10 of Computer Prep Internet Business Foundations. Did you find this more or less difficult than the pre-assessments of more technical subjects?

**Lesson 10**
Read the text material for lesson 10 of Computer Prep Internet Business Foundations. At the end of this lesson, you should know how to respond to the following prompts:

What skills are useful for project management?

What are the five project management phases?

What is the project triangle?

Describe the value of project management software.

Create a project schedule using project management software.

Why document projects?
Why have meetings for planning and scheduling?

How do you go about reviewing a project?

What are quality assurance techniques?

What are some business implications of IT decisions?

Complete labs 10-1 and 10-2. Is project management more difficult than you thought?

**Lesson 10 Review**
Complete the review for lesson 10 of Computer Prep Internet Business Foundations. Reread the lesson material for any answer that you get wrong. Whether sticky notes, paperclips, or something else continue to flag tricky material. Have you returned to look at previously identified hard topics?
Site Development Foundations (Part I)

Can you name any commercial websites that you do not like? Why not? What about ones you like? Why do you like them? Website development is an important project. A proper website is critical to doing business on the Internet. This subject will help you to understand how websites are developed. The following topics will help you to comprehend the details of using markup languages to develop websites. Most find the subject of site development to be fun but also very technical. This material builds, so do not ignore what you do not understand. Get help from the course mentor.

Topics

Introduction to Website Development

If a web page takes a long time to appear, do you move on or wait? Why? The primary emphasis of this topic is to present issues related to site design.

Resources

Lesson 1 Pre-Assessment
Take the pre-assessment for lesson 1 of Computer Prep Site Development Foundations. How did you do? Come back to answer any problems that stumped you. Take notes and keep them organized for later use in the notes area of the web-enabled course of study.

Lesson 1
Read the text material for lesson 1 of Computer Prep Site Development Foundations. Read carefully and take detailed notes of complicated coverage. At the end of this lesson, you should know how to respond to the following prompts:

What is the difference between using a text editor vs. a GUI to produce a web page?
What are some important web page design issues?
Which standards organization controls markup languages?
What are front-end design issues?
Why is creative design so important to business?
What are back-end design issues?

Complete labs 1-1 and 1-2. Work slowly and carefully. Each subsequent lab builds on the previous one.
Lesson 1 Review
Complete the review for lesson 1 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Stop here and get help if you could not finish something. Each of these lessons builds on the previous one.

Markup Language and Site Development Essentials
Editorial markup uses symbols to communicate to another how the editor would like the text in question to appear. A markup language is the web equivalent, and it uses tags instead of symbols. This topic introduces the XHTML markup language. Make sure to keep notes on all of the tags introduced here.

Resources

Lesson 2 Pre-Assessment
Take the pre-assessment for lesson 2 of Computer Prep Site Development Foundations. Do not forget to return with any answers that you could not provide.

Lesson 2
Read the text material for lesson 2 of Computer Prep Site Development Foundations. Make sure that you understand the difference between HTML, XML, and XHTML. At the end of this lesson, you should know how to respond to the following prompts:

Relate the history of markup languages.
What distinguishes HTML from XHTML?
What are the names of the flavors of HTML and XHTML?
Why is universal markup of value?
What are the principles of site management?
How do you plan development of a website?

Complete labs 2-1, 2-2, and 2-3. This is not the place to speed-read.

Lesson 2 Review
Complete the review for lesson 2 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Do you prefer any of the languages reviewed?
**XHTML Coding**

Web pages really are documents to which markup language is applied. XHTML documents have a specific structure. This topic begins to introduce the tags needed to define that structure. Are you familiar with coding? If not, pay extra close attention, and make flash cards from the tags in this lesson.

**Resources**

**Lesson 3 Pre-Assessment**
Take the pre-assessment for lesson 3 of Computer Prep Site Development Foundations. Take it again when you have completed the lesson.

**Lesson 3**
Read the text material for lesson 3 of Computer Prep Site Development Foundations. Does the tag structure make sense? Why do you think they look that way? At the end of this lesson, you should know how to answer the following questions:

What is the basic structure of an XHTML document?
What are the XHTML document structure tags?
What does it mean to validate XHTML?
Why use comments?

Complete labs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, and 3-8. If you have trouble, ask the course mentor for help.

**Lesson 3 Review**
Complete the review for lesson 3 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Tags are good entries for flash cards.

**Horizontal Rules and Graphical Elements**

Websites with just text would be boring indeed, even if the text is bolded and underlined. Graphical elements make a page pleasing to the eye. This topic expands coverage of HTML tags to those that handle graphical elements.
Resources

Lesson 4 Pre-Assessment
Take the pre-assessment for lesson 4 of Computer Prep Site Development Foundations. Be sure to return with any answers you did not know.

Lesson 4
Read the text material for lesson 4 of Computer Prep Site Development Foundations. You can do some cool things with graphical elements. The basics come first, though. At the end of this lesson, you should know how to answer the following questions:

How do you add a horizontal rule to your page?

How do you place an image file as a stand-alone graphic?

What is the web-safe color palette?

How do you use colors and tiled images for page backgrounds?

How are special characters added to XHTML pages?

Why should you structure your XHTML document using the <div> tag and CSS?

Complete labs 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, and 4-8. If you have trouble, ask the course mentor for help.

Lesson 4 Review
Complete the review for lesson 4 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. If you are struggling with HTML, you may want to consider the LearnKey "HTML Fundamentals" learning resource. If you did not do so previously, simply enroll from the "WFV1 Learning Resource" tab of your AAP.
Site Development Foundations (Part II)

Do you know who Paul Kunz is? Try looking him up on the Internet. The following topics delve deeper into XHTML syntax.

Topics

Hyperlinks

The term hyperlink was actually coined in 1965 and was inspired by an article written in 1945. Can you fill in the historical gaps? Hyperlinks are now ubiquitous. Their modern implementation probably started with the Apple computer’s HyperCard system.

Resources

Lesson 5 Pre-Assessment
Take the pre-assessment for lesson 5 of Computer Prep Site Development Foundations. Come back to this with any answers that you did not get the first time around.

Lesson 5
Read the text material for lesson 5 of Computer Prep Site Development Foundations. The ability to link is what makes the World Wide Web a web. At the end of this lesson, you should know how to answer the following questions:

How do you reference full and partial URLs?

What alternative protocols exist, and how do you specify them?

What is the difference between creating hyperlinks for text and for images?

What is the difference between a link to a local file and one to a remote site?

Complete labs 5-1, 5-2, 5-3, and 5-4. If you have trouble, ask the course mentor for help.

Lesson 5 Review
Complete the review for lesson 5 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. After adding hyperlink flash cards, how many do you now have?
Tables

Tables are used extensively in website design. Think outside the box. This topic continues XHTML instruction with the elements needed for building tables.

Resources

Lesson 6 Pre-Assessment
Take the pre-assessment for lesson 6. Are you surprised to find that the questions in this pre-assessment have nothing to do with spreadsheet tables?

Lesson 6
Read the text material for lesson 6 of Computer Prep Site Development Foundations. Tables are important, so pay close attention when you read-and take good notes. At the end of this lesson, you should know how to respond to the following prompts:

Create a simple and complex table in HTML and XHTML.

How do you add or remove table border lines.

How do you format table rows and cells using attributes?

When is table-use appropriate?

Complete labs 6-1 and 6-2. If you have trouble, ask the course mentor for help.

Lesson 6 Review
Complete the review for lesson 6 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Now, when you look at a website, can you see where tables are used?

Web Forms

A transaction is an exchange. Business on the web involves online transactions. Transacting business requires that you interact with the site. That means filling in a form of some kind, even if all that is required is checking a box. Does completing a form on the web make you a bit nervous?

Resources

Lesson 7 Pre-Assessment
Take the pre-assessment for lesson 7 of Computer Prep Site Development Foundations. If you do not know the answers, come back when you have finished the lesson.

**Lesson 7**
Read the text material for lesson 7 of Computer Prep Site Development Foundations. Forms have controls. What does that mean? At the end of this lesson, you should know how to respond to the following prompts:

What are the web form elements for HTML and XHTML?
How is a web form constructed?
Make a web form and test it using a public test engine.

Complete labs 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, and 7-7. Remember, each subsequent lab builds on the previous one.

**Lesson 7 Review**
Complete the review for lesson 7 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. How many tags have you learned so far? Which ones require opening and closing tags, and which do not?

**Image Techniques**

There is much more to working with images than knowing how to include them in your website. This topic covers the many considerations central to selecting and including images on a web page.

**Resources**

**Lesson 8 Pre-Assessment**
Take the pre-assessment for lesson 8 of Computer Prep Site Development Foundations. Do you have an opinion about the usefulness of animated GIFs? If so, make yourself known in the message board.

**Lesson 8**
Read the text material for lesson 8 of Computer Prep Site Development Foundations. How many different image formats are there? At the end of this lesson, you should know how to respond to the following prompts:
How do you create a client-side, image map?

Why would you define odd-shaped areas as hot spots on an image?

Link a hot spot to a URL.

What is image transparency?

How do you distinguish between GIF 87a and 89a formats?

What is image interlacing?

Contrast GIF and PNG image formats.

Complete Labs 8-1 and 8-2.

**Lesson 8 Review**
Complete the review for lesson 8 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Which image formats are best for the web?
Site Development Foundations (Part III)

A proper website is critical to doing business on the Internet. This subject will help you to understand how websites are developed. The following topics cover more advanced XHTML syntax and looks at other languages.

Topics

Frames

Frames are somewhat controversial; they are not universally supported. Do you have an opinion? Web pages are often subdivided into frames. This topic discusses not only what is needed to build frames, but considerations in deciding whether to include them in the first place.

Resources

Lesson 9 Pre-Assessment
Take pre-assessment for the lesson 9 of Computer Prep Site Development Foundations. Comprehending frames can cause confusion for some. If you left the pre-assessment unanswered, come back when you have finished the lesson.

Lesson 9
Read the text material for lesson 9 of Computer Prep Site Development Foundations. Are frames good or bad? Under what circumstances are frames good (or bad)? At the end of this lesson, you should know how to answer the following questions:

What is a frame, and what is the purpose of the frameset document?
What are the attributes of the <frameset> and <frame> tags?
How do you use the <noframes> tag?
What does it mean to target links from one frame to another?
What is the <base> tag for?
How do you make a borderless frame, and how do you control frame margins and scrolling?
What is the purpose of an inline frame?

Complete labs 9-1, 9-2, and 9-3. What is required to put a frame in a page?
Lesson 9 Review
Complete the review for lesson 9 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Do not forget to go back to the pre-assessment questions that you missed or did not answer.

GUI HTML Editors

HTML coding purists abhor graphical user interface (GUI) editors. What do you think? This topic moves from text editors to the use of those employing a GUI.

Resources

Lesson 10 Pre-Assessment
Take the pre-assessment for lesson 10 of Computer Prep Site Development Foundations. You may have been able to guess at these. Now, find out if you were correct.

Lesson 10
Read the text material for lesson 10 of Computer Prep Site Development Foundations. This is like comparing manual and automatic transmissions. Which do you prefer? At the end of this lesson, you should know how to respond to the following prompts:

- What are the types of GUI editors that create HTML and XHTML code?
- What are the features of GUI editors?
- Create a web page using a GUI editor.
- What are the requirements for publishing a site to a web server?

Complete labs 10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, and 10-8. Do not skip any of these.

Lesson 10 Review
Complete the review for lesson 10 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. If you prefer hand coding, do you like plain text editors or those that provide highlighting and auto-indenting?

Advanced Web Technologies

Broadly speaking, markup languages make a web page look the way it does; scripting languages
make it do things. Advanced topics include scripting languages, connecting web pages to databases, Cascading Style Sheets, and the functioning of the Document Object Model. You can have a bit of fun here, so enjoy yourself!

Resources

Lesson 11 Pre-Assessment
Take the pre-assessment for lesson 11 of Computer Prep Site Development Foundations. When you have completed the lesson, return to the questions that you did not know the answer to, and answer them.

Lesson 11
Read the text material of Computer Prep Site Development Foundations lesson 11. This may be your first exposure to programming. Do you think that it is a career option for you? At the end of this lesson, you should know how to answer the following questions:

What are the technologies identified with client-side and server-side scripting?
How are web pages connected to databases?
How do you use a CSS to apply formatting to web pages?
What are the benefits of DHTML?
What does the DOM do, and how is it related to browsers?
Why would you choose to either host your own site or use a service provider?

Complete labs 11-1, 11-2, 11-3, 11-5, 11-6, 11-7 and 11-8.

Lesson 11 Review
Complete the review for lesson 11 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Do not forget to return to the lesson’s pre-assessment. Did you develop a stronger-than-average curiosity about programming or databases?

E-Commerce Practices

Do you prefer to buy online or in a store? There are significant differences between traditional commerce and e-commerce.
Lesson 12 Pre-Assessment
Take the pre-assessment for lesson 12 of Computer Prep Site Development Foundations. Keep your answers handy as you read. Take notes when you find differences between your answers and the lesson's content.

Lesson 12
Read the text material for lesson 12 of Computer Prep Site Development Foundations. Do you prefer doing business in person or on the web? Keep track of the characteristics of both that do and do not appeal to you. Why do you think that many of the dot-coms from the late '90s no longer exist? At the end of this lesson, you should know how to respond to answer the following questions:

How do e-commerce and traditional commerce compare?

How is the concept of a supply chain related to e-commerce?

What are the payment models used in e-commerce?

What are some ways to protect a transaction that contains private information?

How are e-commerce relationships built using web-based technology?

Complete labs 12-1, 12-2, and 12-3. Resist the temptation to skip these labs.

Lesson 12 Review
Complete the review for lesson 12 of Computer Prep Site Development Foundations. Reread the lesson material for any answer that you get wrong. Some of this terminology comes from business, not IT, but do not ignore it.
Network Technology Foundations (Part I)

Networking is at the heart of online technologies. This subject will introduce you to it, including the largest network: the Internet. The topics below will explain types of networks, and the network protocols involved in using the Internet. The technical details of networking confuse many, so do not ignore the urge to write things down so you do not forget.

Topics

Introduction to Networking

Do you have a home network? Then you may already be familiar with some of this terminology. You may also be familiar with some of the problems inherent in keeping a network going. This topic introduces the basic function of networking hardware and communication.

Resources

Lesson 1 Pre-Assessment
Take the pre-assessment for lesson 1 of Computer Prep Network Technology Foundations. Come back with the answers if you do not know them.

Lesson 1
Read the text material for lesson 1 of Computer Prep Network Technology Foundations. Networks are a difficult topic for some. Slow down here, and reread tough sections. At the end of this lesson, you should know how to respond to the following prompts:

What do servers, workstations, and hosts do?

Networks have operating systems. What are some major ones?

What is a packet, and what does it have to do with the OSI reference model?

What characteristics differentiate network protocols?

How do you describe basic LANs and WANs?

What is a NAP (network access point)?

Define asynchronous and synchronous, simplex, half duplex, full duplex, baseband, and broadband.

What network architectures exist?
Complete labs 1-1, 1-2, 1-3 and 1-4. These will help. Do not skip them.

Lesson 1 Review
Complete the review for lesson 1 of Computer Prep Network Technology Foundations. Reread the Lesson material for any answer that you get wrong. Flesh out your notes.

TCP/IP Suite and Internet Addressing

Protocols define situational etiquette; in this case, electronic-communications etiquette. The main thrust of this topic is to introduce various Internet protocols.

Resources

Lesson 2 Pre-Assessment
Take the pre-assessment for lesson 2 of Computer Prep Network Technology Foundations. If you could not answer, return to provide the answers when you have completed the lesson.

Lesson 2
Read the text material for lesson 2 of Computer Prep Network Technology Foundations. This lesson has lots of possibly unfamiliar terminology in it, so keep your flash card materials handy. At the end of this lesson, you should know how to respond to the following prompts:

What is the Internet architecture model and its various protocols?
What is the purpose of RFCs?
How would you describe static vs. dynamic routing, and interior vs. exterior routing protocols?
Compare and contrast RIP with OSPF.
What functions to ports serve? Name some well-known and registered port numbers.
How does IP addressing work?
What use does IPv6 serve?
What TCP/IP properties are needed to configure a typical workstation?
What tools are used to troubleshoot TCP/IP networks?

Complete labs 2-1, 2-2, and 2-3.
Lesson 2 Review
Complete the review for lesson 2 of Computer Prep Network Technology Foundations. Reread the lesson material for any answer that you get wrong. The protocols involved here can be confusing. Make sure that you understand them before proceeding.
Network Technology Foundations (Part II)

Networking is at the heart of online technologies. This subject will introduce you to it, including the largest network: the Internet. The following topics go deeper into constructing, maintaining, and securing a network. You will also gain an understanding of networking career paths.

Topics

Internetworking Servers

Do you use e-mail? At work, and increasingly at home, do you have one printer for several computers? Then you use servers. This topic continues the description of protocols, especially those used for internetworking servers.

Resources

Lesson 3 Pre-Assessment
Take the pre-assessment for lesson 3 of Computer Prep Network Technology Foundations. After completing the lesson, return with the answer to any you missed or did not answer.

Lesson 3
Read the text material for lesson 3 of Computer Prep Network Technology Foundations. Keep your flash cards current. At the end of this lesson, you should know how to answer the following questions:

How would you describe the functions and features of various internetworking servers?
How do these servers use TCP/IP?
What are the access-security features of an HTTP server?
What is MIME, and how is it related to HTTP and mail servers?
What is a DNS, and how does it work?
What is a daemon, and what do they do?

Complete labs 3-1, 3-2 and 3-3.

Lesson 3 Review
Complete the review for lesson 3 of Computer Prep Network Technology Foundations. Reread
the lesson material for any answer that you get wrong. Have you come up with a way to keep the various protocols separated in your head? Have you gone to the message board to see how others are faring with network technology fundamentals?

Hardware and Operating System Maintenance

Your hardware and software can fail. Maintenance of that hardware and software is key to avoiding failure, and troubleshooting finds issues before they cause failure. This topic explains computing hardware and operating system software, which is the basis of workstations on a network.

Resources

Lesson 4 Pre-Assessment
Take the pre-assessment for lesson 4 of Computer Prep Network Technology Foundations. Were you able to synthesize answers from your previous studies? Please do come back to try again when the lesson is complete.

Lesson 4
Read the text material for lesson 4 of Computer Prep Network Technology Foundations. When something does not work at home, do you first check to see if it is plugged in and turned on? While common sense often rules in the troubleshooting world, resolving issues for things you do not see is often difficult. Pay close attention. At the end of this lesson, you should know how to answer the following questions:

What are the characteristics of motherboards?
What functions do IRQs, I/O addresses, and DMA settings serve?
What is a NIC?
How are CD-ROMs and DVDs different?
Why is hard-drive partitioning and formatting necessary?
What is the difference between various types of file systems?
How do you troubleshoot boot problems?
How do you remotely troubleshoot workstations?

Complete labs 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7 and 4-8. Take these in the order you encountered them. Try not to skip ahead or wait.
Lesson 4 Review
Complete the review for lesson 4 of Computer Prep Network Technology Foundations. Reread the lesson material for any answer that you get wrong. Return to the lesson's pre-assessment with any answers you did not get the first time.

Network Security and IT Career Opportunities

The same network that makes resource sharing easy can also make it easy to share those resources with unintended users, or to bring infections of one kind or another to intended users. This topic discusses the various types of network attacks, available defenses, and career opportunities in security.

Resources

Lesson 5 Pre-Assessment
Take the pre-assessment for lesson 5 of Computer Prep Network Technology Foundations. Were you able to answer one or more of these? If not, return with the answers when you are finished with the lesson.

Lesson 5
Read the text material for lesson 5 of Computer Prep Network Technology Foundations. Do you know any hackers? At the end of this lesson, you should know how to respond to the following prompts:

What is security?
What are the various kinds of network attacks?
What is a virus, and how do you protect yourself against them?
What are authentication principles?
What are the three major types of encryption?
Define VPN, RAS, digital certificates, and PKI.
How do firewalls work?
What is a security audit?
How do you use a UPS?
What classes of career opportunities exist in IT?
Why is it important to know how to explain technical issues to non-technical audiences?

Complete labs 5-1 and 5-2.

**Lesson 5 Review**
Complete the review for lesson 5 of Computer Prep Network Technology Foundations. Reread the lesson material for any answer that you get wrong.
Learning Reinforcement and Review

Practice exams are an important review tool. First, content looks different when posed in a question, and your knowledge should extend beyond content format. Second, practice questions are a good way to find out what you do not know. However, they are not very useful if you have not studied first. Practice exams, like the real thing, present only a subset of the available knowledge. Even with lots of practice exams, odds are excellent that you will not cover all of the required territory.

Topics

ExamForce

ExamForce has two parts: a testing engine and a database. It is a powerful tool because it is adaptive (i.e., it chooses questions from its database based on user weaknesses while still providing enough questions from strong areas to maintain strength). It divides what is presented into "passes." Once you have completed three "passes," you are ready to sit for the actual exam.

Resources

Enroll in ExamForce
Go to the "WFV1 Learning Resources" tab to enroll. You may not enroll until you have completed the three-volume text. Shortly after enrolling, usually within one to two business days, you will receive an e-mail from ExamForce with your license key and instructions. Follow them carefully to download both the test engine and the database.

(Please note that ExamForce databases are quite large, possibly over 100 MB.)

After installation, you will occasionally receive the opportunity to download and install updates. Download and install major updates with caution because they erase your history. Minor updates do not do this. Check with your mentor before accepting a major update.

Take the Pre-Assessment
This is different from the pre-assessment taken at the beginning of your studies. The pretest mode sets up initial conditions for the next activity, adaptive drill mode. Before moving on, though, look at the report produced from your pretest. It will show you which exam objectives represent weaknesses for you. Additionally, it refers you to sections of its built-in review text for additional explanation.

Adaptive Drill Mode
Once you have reached the adaptive drill mode, do not install major updates from ExamForce.

Passes are units of progress through the ExamForce database that systematically work on your weak areas while maintaining your strengths. After completing three passes, you are likely ready to refer for the CIW exam.
E-mail the Historical Analysis to Your Mentor
When all three "passes" are complete, e-mail the report to your mentor. It is required as part of your record prior to approving a referral for the certification exam. The historical analysis report is always available from either the "History" button at the top of the ExamForce application or from the "Historical Analysis" button in the "Adaptive Drill" tab. You may choose to e-mail it using several formats, but WGU requires a PDF version, so select that option.

CIW v5 Foundations Exam Study Guide (Optional)
The exam study guide will help you prepare for the CIW v5 Foundations exam. It is an overview of the three topical domains:

Internet Business Foundations
Site Development Foundations
Network Technology Foundations

Review each chapter, and answer the practice exam questions at the end of each chapter.
Conclusion

Congratulations on successfully completing this course of study! Over the past few weeks, you have covered a lot of territory in three major categories: Internet Business Foundations, Site Development Foundations, and Network Technology Foundations. These topics have touched on several potential career fields, and you may want to talk about the possibilities with your mentor and engage in conversations with fellow students on the message boards. Your next employer, or information leading to your next employer, could come from there.

Topics

Review of WFV1 Competencies

As indicated in the introduction, this course of study covered the four competencies needed for successful completion of WFV1. Listed below are the four:

Competency 417.1.1: Networked ResourcesThe graduate demonstrates a basic working knowledge of networked resources.

Do the following in the Network Technology Foundations text:

- Take the lesson 1 pre-assessment
- Read the lesson 1 text material
- Complete the lesson 1 review
- Take the lesson 2 pre-assessment
- Read the lesson 2 text material
- Complete the lesson 2 review
- Take the lesson 3 pre-assessment
- Read the lesson 3 text material
- Complete the lesson 3 review
- Take the lesson 4 pre-assessment
- Read the lesson 4 text material
- Complete the lesson 4 review
- Take the lesson 5 pre-assessment
Read the lesson 5 text material
Complete the lesson 5 review

Competency 417.1.2: Hardware/Software and Internet
The graduate describes the role and basic functioning of hardware and software needed for Internet business.

Do the following in the Internet Business Foundations text:

Take the lesson 1 pre-assessment
Read the lesson 1 text material
Complete the lesson 1 review
Take the lesson 2 pre-assessment
Read the lesson 2 text material
Complete the lesson 2 review
Take the lesson 3 pre-assessment
Read the lesson 3 text material
Complete the lesson 3 review
Take the lesson 4 pre-assessment
Read the lesson 4 text material
Complete the lesson 4 review
Take the lesson 5 pre-assessment
Read the lesson 5 text material
Complete the lesson 5 review
Take the lesson 6 pre-assessment
Read the lesson 6 text material
Complete the lesson 6 review
Take the lesson 7 pre-assessment
Competency 417.1.3: Web Sites
The graduate organizes and produces a simple but functioning Web site.

Do the following in the Site Development Foundations text:
Competency 417.1.4: Advanced Web Technologies
The graduate demonstrates knowledge of Web browser function, use, configuration, and customization.

Do the following in the Internet Business Foundations text:

Take the lesson 1 pre-assessment
Read the lesson 1 text material
Complete the lesson 1 review
Take the lesson 2 pre-assessment
Read the lesson 2 text material
Complete the lesson 2 review
Take the lesson 3 pre-assessment
Read the lesson 3 text material
Complete the lesson 3 review
Take the lesson 4 pre-assessment
Read the lesson 4 text material
Complete the lesson 4 review
Take the lesson 5 pre-assessment
Read the lesson 5 text material
Complete the lesson 5 review
Take the lesson 6 pre-assessment
Read the lesson 6 text material
Complete the lesson 6 review
Take the lesson 7 pre-assessment
Read the lesson 7 text material
Complete the lesson 7 review
Take the lesson 8 pre-assessment
Read the lesson 8 text material
Complete the lesson 8 review

Take the Assessment
When all three "passes" are complete, e-mail the report to your mentor. It is required as part of your record prior to approving a referral for the certification exam. The historical analysis report is always available from either the "History" button at the top of the ExamForce application or from the "Historical Analysis" button in the "Adaptive Drill" tab. You may choose to e-mail it using several formats, but WGU requires a PDF version, so select that option.

Resources

Access the WFV1 Exam
The following are the steps needed to arrange for the actual assessment:

Refer for the WFV1 assessment through your AAP.

Once your mentor has approved the referral, you will receive a voucher number by e-mail from the Vendor Assessment Department.

Using the voucher number, you will need to arrange for the actual date for the assessment through the testing center.

After the exam, scan your test results and submit them to the Vendor Assessment Department (vendorassessments@wgu.edu).

Please contact your mentor if your AAP does not reflect the status of your assessment results in a day or so.

Following the Outside Vendor Assessment
Whether you pass the exam or not, you are responsible for getting the score report to WGU. Please also remember to include the score report cover sheet. It is found under the "Resources" tab of your AAP.

To submit your score reports, you can do one of the following:

Scan the score report and e-mail it to scores@wgu.edu. (This is the preferred method. It generally takes up to 5-7 days.)

Fax it to 801-606-7021. (This may take longer than 5-7 business days for entry.)

Mail a hard copy to Western Governors University, ATTN: Assessment Delivery Department, 4001 S 700 E., Ste 700, Salt Lake City, UT 84107.

If you have any questions regarding this process, please ask your mentor for more information.
Transfer/Application to Work - How Will You Apply This Knowledge?

Successful completion of the WFV1 assessment validates the basic, hands-on skills and knowledge that an IT professional is expected to understand and use with respect to the Internet. Skills include basic knowledge of the essentials of doing business on the web, including maintaining a physical Internet presence. The knowledge and skill-base acquired to pass this assessment are valuable for individuals working in IT and other industries whose employers require computing and Internet knowledge to maintain their systems and a web presence. Receiving a passing score on the CIW Associate certification confirms that you have mastered the basic knowledge and theory of IT Fundamentals I.

Feedback

If you wish to provide feedback on this course of study, please contact Charlie Paddock at cpaddock@wgu.edu.

Click here to review University ADA policy.