

# Network Pro

Welcome to TestOut's Network Pro course. This course prepares you for IT support jobs and related IT certifications. You will gain the knowledge and skills you need to install, configure, and maintain a network for a small business.

## Course Prerequisites

To be successful in this course, you need certain prerequisite skills and base knowledge. We recommend that you complete the TestOut PC Pro or CompTIA A+ certification and have 9 months of networking experience before beginning this course. If you haven't completed these things, you can still take this course. Just be prepared to have a slightly steeper learning curve than students who have more knowledge and experience to draw from.

One of the key things is experience with computer hardware. As we go through this course, we are going to assume that you already know a lot of things. For example, if we were to say in this course we're going to install a network card in an expansion bus, we are going to assume that you know what we are talking about and how to do that. You know how to select the appropriate network board for the appropriate expansion bus slot and how to configure resources and drivers for that expansion board.

We won't give you all the details on how to put that card in, how to configure the resources it uses and so on. We are going to assume that you already know how to do that. Basically, we are going to assume throughout this course that you are already familiar with the basics of PC hardware, such as motherboards, hard disk drives, expansion buses, and expansion cards.

## Course Topics

Now let's spend a few minutes talking about what you're going to learn in this course. We'll begin with some basics, like how to identify network cable and connector types, identifying the different networking standards common in computer networks today, selecting and installing the appropriate network interface cards for a particular network, and managing static and dynamic IP addressing and network protocols.

Then we'll move into more advanced concepts, like identifying wired and wireless network components and setting up a wired or wireless network. You'll learn how to configure network security, manage network traffic, and configure remote access to a network. And throughout the course, you'll learn how to troubleshoot common network issues.

## Appendix A: Approximate Time for the Course

The total time for the LabSim for TestOut Network Pro course is approximately **56 hours and 54 minutes**. Time is calculated by adding the approximate time for each section which is calculated using the following elements:

- Video/demo times
- Text Lessons (5 minutes assigned per text lesson)
- Simulations (12 minutes assigned per simulation)
- Questions (1 minute per question)

Additionally, there are approximately another **33 hours and 11 minutes** of Practice Test material at the end of the course.

The breakdown for this course is as follows:

| Module                               | Sections                        | Time        | Videos      | Labs        | Text        | Exams       |
|--------------------------------------|---------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>0.0: Introduction</b>             |                                 |             |             |             |             |             |
| <b>Week 1: Due 12:00 PM EST (US)</b> |                                 |             |             |             |             |             |
|                                      | 0.1: Network Pro Introduction   | 4           | 4           | 0           | 0           | 0           |
|                                      | 0.2: Use the Simulator          | 35          | 11          | 24          | 0           | 0           |
|                                      | <b>Total</b>                    | <b>0:39</b> | <b>0:15</b> | <b>0:24</b> | <b>0:00</b> | <b>0:00</b> |
| <b>1.0: Networking Basics</b>        |                                 |             |             |             |             |             |
| <b>Week 1: Due 12:00 PM EST (US)</b> |                                 |             |             |             |             |             |
|                                      | 1.1: Networking Overview        | 34          | 25          | 0           | 5           | 4           |
|                                      | 1.2: Network Topologies         | 25          | 8           | 0           | 5           | 12          |
|                                      | 1.3: The OSI Model              | 39          | 15          | 0           | 10          | 14          |
|                                      | 1.4: Network Protocols          | 42          | 25          | 0           | 5           | 12          |
|                                      | 1.5: Numbering Systems          | 17          | 9           | 0           | 5           | 3           |
|                                      | <b>Total</b>                    | <b>2:37</b> | <b>1:22</b> | <b>0:00</b> | <b>0:30</b> | <b>0:45</b> |
| <b>2.0: Cables and Connectors</b>    |                                 |             |             |             |             |             |
| <b>Week 1: Due 12:00 PM EST (US)</b> |                                 |             |             |             |             |             |
|                                      | 2.1: Twisted Pair               | 36          | 12          | 12          | 5           | 7           |
|                                      | 2.2: Coaxial                    | 28          | 5           | 12          | 5           | 6           |
|                                      | 2.3: Fiber Optic                | 37          | 11          | 12          | 5           | 9           |
|                                      | 2.4: Wiring Implementation      | 68          | 21          | 24          | 10          | 13          |
|                                      | 2.5: Troubleshoot Network Media | 58          | 28          | 0           | 15          | 15          |
|                                      | <b>Total</b>                    | <b>3:47</b> | <b>1:17</b> | <b>1:00</b> | <b>0:40</b> | <b>0:50</b> |
| <b>3.0: Networking Devices</b>       |                                 |             |             |             |             |             |
| <b>Week 1: Due 12:00 PM EST (US)</b> |                                 |             |             |             |             |             |
|                                      | 3.1: Network Adapters           | 48          | 9           | 24          | 5           | 10          |
|                                      | 3.2: Network Devices            | 54          | 11          | 24          | 5           | 14          |

|   |              |             |             |             |             |
|---|--------------|-------------|-------------|-------------|-------------|
| 3.3: Internetwork Devices                 | 29           | 7           | 12          | 5           | 5           |
| <b>Total</b>                              | <b>2:11</b>  | <b>0:27</b> | <b>1:00</b> | <b>0:15</b> | <b>0:29</b> |
| <b>4.0: Ethernet</b>                      |              |             |             |             |             |
| <b>Week 1: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |
| 4.1: Ethernet                             | 18           | 9           | 0           | 5           | 4           |
| 4.2: Ethernet Specifications              | 39           | 7           | 12          | 5           | 15          |
| 4.3: Connect Network Devices              | 36           | 8           | 12          | 5           | 11          |
| 4.4: Troubleshoot Physical Connectivity   | 96           | 14          | 60          | 10          | 12          |
| <b>Total</b>                              | <b>3:09</b>  | <b>0:38</b> | <b>1:24</b> | <b>0:25</b> | <b>0:42</b> |
| <b>5.0: IP Configuration</b>              |              |             |             |             |             |
| <b>Week 2: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |
| 5.1: IP Addressing                        | 89           | 30          | 24          | 20          | 15          |
| 5.2: APIPA and Alternate Addressing       | 28           | 8           | 12          | 5           | 3           |
| 5.3: DHCP Server Configuration            | 91           | 18          | 60          | 5           | 8           |
| 5.4: DHCP Relay                           | 38           | 6           | 24          | 5           | 3           |
| 5.5: DNS Name Resolution                  | 95           | 25          | 60          | 5           | 5           |
| 5.6: IP Version 6                         | 76           | 36          | 12          | 20          | 8           |
| 5.7: Multicast                            | 18           | 7           | 0           | 5           | 6           |
| 5.8: Troubleshoot IP Configuration Issues | 82           | 24          | 48          | 5           | 5           |
| 5.9: Troubleshoot IP Communications       | 73           | 31          | 12          | 15          | 15          |
| 5.10: Troubleshoot Name Resolution        | 38           | 14          | 12          | 5           | 7           |
| <b>Total</b>                              | <b>10:28</b> | <b>3:19</b> | <b>4:24</b> | <b>1:30</b> | <b>1:15</b> |
| <b>6.0: Switch Management</b>             |              |             |             |             |             |
| <b>Week 3: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |
| 6.1: Switch Access                        | 20           | 12          | 0           | 5           | 3           |
| 6.2: Switch IP Configuration              | 36           | 4           | 24          | 5           | 3           |
| 6.3: Switch Interface Configuration       | 48           | 17          | 12          | 15          | 4           |
| 6.4: Virtual LANs                         | 59           | 12          | 24          | 10          | 13          |
| 6.5: Trunking                             | 72           | 19          | 36          | 10          | 7           |
| 6.6: Spanning Tree Protocol               | 83           | 22          | 36          | 10          | 15          |
| 6.7: Switch Troubleshooting               | 27           | 13          | 0           | 5           | 9           |
| <b>Total</b>                              | <b>5:45</b>  | <b>1:39</b> | <b>2:12</b> | <b>1:00</b> | <b>0:54</b> |
| <b>7.0: Routing</b>                       |              |             |             |             |             |
| <b>Week 4: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |
| 7.1: Routing Basics                       | 22           | 11          | 0           | 5           | 6           |
| 7.2: Routing Protocols                    | 83           | 36          | 24          | 10          | 13          |
| 7.3: Network Address Translation          | 45           | 30          | 0           | 5           | 10          |
| 7.4: Routing Troubleshooting              | 58           | 20          | 24          | 5           | 9           |
| <b>Total</b>                              | <b>3:28</b>  | <b>1:37</b> | <b>0:48</b> | <b>0:25</b> | <b>0:38</b> |
| <b>8.0: Firewalls</b>                     |              |             |             |             |             |
| <b>Week 5: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |
| 8.1: Firewalls                            | 65           | 23          | 12          | 15          | 15          |
| 8.2: Security Appliances                  | 31           | 11          | 12          | 5           | 3           |
| 8.3: Firewall Design and Implementation   | 87           | 43          | 24          | 5           | 15          |
| <b>Total</b>                              | <b>3:03</b>  | <b>1:17</b> | <b>0:48</b> | <b>0:25</b> | <b>0:33</b> |
| <b>9.0: Network Customization</b>         |              |             |             |             |             |
| <b>Week 5: Due 12:00 PM EST (US)</b>      |              |             |             |             |             |

|   |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|
| 9.1: Network-Based Storage                        | 72          | 32          | 24          | 10          | 6           |
| 9.2: Voice over IP (VoIP)                         | 54          | 12          | 24          | 5           | 13          |
| 9.3: Virtualization                               | 24          | 15          | 0           | 5           | 4           |
| 9.4: Virtual Networking                           | 36          | 17          | 0           | 10          | 9           |
| 9.5: Cloud Computing                              | 23          | 13          | 0           | 5           | 5           |
| <b>Total</b>                                      | <b>3:29</b> | <b>1:29</b> | <b>0:48</b> | <b>0:35</b> | <b>0:37</b> |
| <b>10.0: Wireless Networking</b>                  |             |             |             |             |             |
| <b>Week 6: Due 12:00 PM EST (US)</b>              |             |             |             |             |             |
| 10.1: Wireless Concepts                           | 31          | 16          | 0           | 10          | 5           |
| 10.2: Wireless Standards                          | 44          | 27          | 0           | 5           | 12          |
| 10.3: Wireless Configuration                      | 66          | 20          | 36          | 5           | 5           |
| 10.4: Wireless Network Design                     | 71          | 26          | 24          | 10          | 11          |
| 10.5: Wireless Network Implementation             | 37          | 16          | 12          | 5           | 4           |
| 10.6: Wireless Security                           | 69          | 32          | 12          | 10          | 15          |
| 10.7: Wireless Troubleshooting                    | 81          | 26          | 36          | 5           | 14          |
| <b>Total</b>                                      | <b>6:39</b> | <b>2:43</b> | <b>2:00</b> | <b>0:50</b> | <b>1:06</b> |
| <b>11.0: Wide Area Networks (WANs)</b>            |             |             |             |             |             |
| <b>Week 6: Due 12:00 PM EST (US)</b>              |             |             |             |             |             |
| 11.1: WAN Concepts                                | 56          | 26          | 0           | 15          | 15          |
| 11.2: WAN Connections                             | 32          | 7           | 12          | 5           | 8           |
| 11.3: Internet Connectivity                       | 54          | 22          | 12          | 5           | 15          |
| 11.4: Remote Access                               | 52          | 33          | 0           | 5           | 14          |
| 11.5: WAN Troubleshooting                         | 31          | 17          | 0           | 5           | 9           |
| <b>Total</b>                                      | <b>3:45</b> | <b>1:45</b> | <b>0:24</b> | <b>0:35</b> | <b>1:01</b> |
| <b>12.0: Network Policies and Procedures</b>      |             |             |             |             |             |
| <b>Week 7: Due 12:00 PM EST (US)</b>              |             |             |             |             |             |
| 12.1: Network Design, Documentation, and Policies | 58          | 29          | 0           | 15          | 14          |
| 12.2: Risk Management                             | 35          | 6           | 0           | 15          | 14          |
| 12.3: Security Policies                           | 48          | 23          | 0           | 10          | 15          |
| <b>Total</b>                                      | <b>2:21</b> | <b>0:58</b> | <b>0:00</b> | <b>0:40</b> | <b>0:43</b> |
| <b>13.0: Network Security</b>                     |             |             |             |             |             |
| <b>Week 7: Due 12:00 PM EST (US)</b>              |             |             |             |             |             |
| 13.1: Physical Security                           | 43          | 11          | 12          | 5           | 15          |
| 13.2: Social Engineering                          | 49          | 20          | 12          | 5           | 12          |
| 13.3: Network Vulnerabilities and Threats 1       | 63          | 33          | 0           | 15          | 15          |
| 13.4: Network Vulnerabilities and Threats 2       | 51          | 26          | 0           | 15          | 10          |
| 13.5: Authentication                              | 53          | 28          | 0           | 10          | 15          |
| 13.6: Secure Protocols                            | 25          | 13          | 0           | 5           | 7           |
| 13.7: Remote Access Security                      | 58          | 17          | 24          | 5           | 12          |
| 13.8: Troubleshoot Network Security Issues        | 26          | 16          | 0           | 5           | 5           |
| <b>Total</b>                                      | <b>6:08</b> | <b>2:44</b> | <b>0:48</b> | <b>1:05</b> | <b>1:31</b> |
| <b>14.0: Network Hardening</b>                    |             |             |             |             |             |
| <b>Week 7: Due 12:00 PM EST (US)</b>              |             |             |             |             |             |
| 14.1: Detection and Prevention                    | 69          | 20          | 24          | 10          | 15          |
| 14.2: Penetration Testing                         | 36          | 21          | 0           | 5           | 10          |
| 14.3: Network Hardening                           | 81          | 46          | 12          | 10          | 13          |
| <b>Total</b>                                      | <b>3:06</b> | <b>1:27</b> | <b>0:36</b> | <b>0:25</b> | <b>0:38</b> |

## 15.0: Network Management

### Week 8: Due 12:00 PM EST (US)

|                                    |             |             |             |             |             |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|
| 15.1: Update Management            | 24          | 15          | 0           | 5           | 4           |
| 15.2: Data Protection              | 57          | 19          | 24          | 10          | 4           |
| 15.3: Remote Management            | 41          | 20          | 12          | 5           | 4           |
| 15.4: Mobile Device Management     | 64          | 34          | 12          | 5           | 13          |
| 15.5: Data Center Management       | 60          | 37          | 0           | 10          | 13          |
| 15.6: Monitoring                   | 55          | 35          | 0           | 5           | 15          |
| 15.7: Log File Management          | 18          | 9           | 0           | 5           | 4           |
| 15.8: Network Management with SNMP | 17          | 8           | 0           | 5           | 4           |
| <b>Total</b>                       | <b>5:36</b> | <b>2:57</b> | <b>0:48</b> | <b>0:50</b> | <b>1:01</b> |

## 16.0: Network Optimization

### Week 8: Due 12:00 PM EST (US)

|                                   |             |             |             |             |             |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|
| 16.1: Optimization                | 64          | 27          | 12          | 10          | 15          |
| 16.2: Troubleshooting Methodology | 36          | 16          | 0           | 10          | 10          |
| <b>Total</b>                      | <b>1:40</b> | <b>0:43</b> | <b>0:12</b> | <b>0:20</b> | <b>0:25</b> |

**Total Course Time 67:10**

## Practice Exams

### A.0: Network Pro Practice Exams

#### Week 8: Due 12:00 PM EST (US)

|   | Number of Questions | Time         |
|---|---------------------|--------------|
| A.2: Network Pro Practice Exams - All Questions | 61                  | 12:12        |
| A.3: Network Pro Certification Practice Exam    | 12                  | 2:00         |
| <b>Total</b>                                    | <b>73</b>           | <b>14:12</b> |

### B.0: Network+ Practice Exams

#### Week 8: Due 12:00 PM EST (US)

|  | Number of Questions | Time         |
|--|---------------------|--------------|
| B.2: Network+ Practice Exams - 20 Random Questions | 100                 | 1:40         |
| B.3: Network+ Practice Exams - All Questions       | 949                 | 15:49        |
| B.4: Network+ Certification Practice Exam          | 90                  | 1:30         |
| <b>Total</b>                                       | <b>1,139</b>        | <b>18:59</b> |

**Total Practice Exam Time 33:11**

# Routing and Switching Pro | Cisco Certified Network Associate

Welcome to the TestOut Routing and Switching Pro course. In this course, we're going to cover all the information you need to use Cisco networking devices and prepare for the TestOut Routing and Switching Pro exam and the CCNA exam.

This course is designed for anyone interested in managing and deploying Cisco products in their business environments.

## Course Purpose

The purpose of this course is to prepare you for an associate-level job role in the IT industry.

This course covers the knowledge and skills related to network fundamentals, network access, IP connectivity, IP services, security fundamentals, and the automation and programmability of Cisco devices.

LabSim provides several features designed to help you learn and retain routing and switching skills. Each section provides you with videos and demonstrations that teach you how to perform necessary tasks. Text lessons help reinforce the concepts taught in the videos, and interactive hands-on labs let you practice the skills you've learned. Within each section, you'll find practice questions to test your knowledge.

At the end of the course, you'll find both the TestOut Routing and Switching Pro certification practice exam and the CCNA practice exam. These tests help you prepare for certification. Consider using the exams as a pre-test at the beginning of the course to determine how much you already know. Then, as a post-test, retake the exams at the end of the course to see how much you've learned. You can also test your knowledge by taking the domain exams. The domain exams divide test questions according to the domain objectives in the certification exams. It's another way to practice and reinforce the course concepts.

## TestOut Routing and Switching Pro

The TestOut Routing and Switching Pro certification exam measures your ability to perform real-world tasks using the command line interface on Cisco routing and switching devices.

The tasks assessed in this exam are often performed by IT professionals in a variety of job roles, including computer security specialists, systems engineers, and network systems administrators.

These tasks include switch setup and configuration, switch interface configuration, VLAN configuration, TCP/IP configuration, spanning tree configuration, interVLAN routing, EtherChannel configuration, IP routing implementation with OSPF and EIGRP routing configuration,

access control lists, DHCP, DNS, NAT, security and malware fundamentals, and automation and programmability.

## CCNA 200-301

The Cisco Certified Network Associate exam, or the CCNA 200-301 exam, tests your knowledge and skills related to network fundamentals and access, IP connectivity and services, security fundamentals, and automation and programmability.

## Appendix A: Approximate Time for the Course

The total time for the LabSim for Routing and Switching Pro course is approximately **70 hours and 45 minutes**. Time is calculated by adding the approximate time for each section which is calculated using the following elements:

- Video/demo times
- Text Lessons (5 minutes assigned per text lesson)
- Simulations (12 minutes assigned per simulation)
- Questions (1 minute per question)

Additionally, there are approximately another **36 hours and 4 minutes** of Practice Test material at the end of the course.

The breakdown for this course is as follows:

| Module  | Sections                                   | Time        | Videos      | Labs        | Text        | Exams       |
|---|--|-------------|-------------|-------------|-------------|-------------|
| <b>1.0: Introduction to Routing and Switching Pro</b> |  |             |             |             |             |             |
| <b>Week 9: Due 12:00 PM EST (US)</b>                  |  |             |             |             |             |             |
|   | 1.1: Introduction                          | 35          | 30          | 0           | 5           | 0           |
|   | <b>Total</b>                               | <b>0:35</b> | <b>0:30</b> | <b>0:00</b> | <b>0:05</b> | <b>0:00</b> |
| <b>2.0: Networking Concepts</b>                       |  |             |             |             |             |             |
|   | 2.1: TCP/IP Networking Model               | 49          | 24          | 0           | 15          | 10          |
|   | 2.2: OSI Networking Model                  | 37          | 12          | 0           | 15          | 10          |
|   | 2.3: Networking Basics                     | 29          | 9           | 0           | 10          | 10          |
|   | 2.4: Data Encapsulation and Communications | 36          | 16          | 0           | 10          | 10          |
|   | 2.5: Ethernet                              | 47          | 17          | 0           | 20          | 10          |

|   |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|
| 2.6: Network Devices                            | 51          | 26          | 0           | 15          | 10          |
| <b>Total</b>                                    | <b>4:09</b> | <b>1:44</b> | <b>0:00</b> | <b>1:25</b> | <b>1:00</b> |
| <b>3.0: Cisco Devices</b>                       |             |             |             |             |             |
| <b>Week 10: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 3.1: Cisco Device Connection                    | 40          | 20          | 0           | 10          | 10          |
| 3.2: Command Line Interface (CLI)               | 75          | 18          | 12          | 35          | 10          |
| 3.3: IOS Licensing                              | 25          | 10          | 0           | 5           | 10          |
| 3.4: Device Settings                            | 73          | 12          | 36          | 15          | 10          |
| 3.5: Device Passwords                           | 71          | 15          | 36          | 10          | 10          |
| 3.6: Cisco Discovery Protocol (CDP)             | 79          | 11          | 48          | 10          | 10          |
| <b>Total</b>                                    | <b>6:03</b> | <b>1:26</b> | <b>2:12</b> | <b>1:25</b> | <b>1:00</b> |
| <b>4.0: IP Addressing</b>                       |             |             |             |             |             |
| <b>Week 11: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 4.1: IPv4 Addressing Overview                   | 58          | 33          | 0           | 15          | 10          |
| 4.2: Subnets                                    | 59          | 29          | 0           | 20          | 10          |
| 4.3: Subnet Planning and Design                 | 48          | 9           | 24          | 5           | 10          |
| 4.4: Route Summarization                        | 30          | 10          | 0           | 10          | 10          |
| 4.5: IPv6 Addressing Overview                   | 56          | 16          | 0           | 30          | 10          |
| 4.6: Dynamic Host Configuration Protocol (DHCP) | 68          | 12          | 36          | 10          | 10          |
| 4.7: The Domain Name System (DNS)               | 107         | 27          | 60          | 10          | 10          |
| <b>Total</b>                                    | <b>7:06</b> | <b>2:16</b> | <b>2:00</b> | <b>1:40</b> | <b>1:10</b> |
| <b>5.0: Switching</b>                           |             |             |             |             |             |
| <b>Week 11: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 5.1: Layer 2 Switching Overview                 | 60          | 30          | 0           | 20          | 10          |
| 5.2: Switch Interface Configuration             | 98          | 13          | 60          | 15          | 10          |
| <b>Total</b>                                    | <b>2:38</b> | <b>0:43</b> | <b>1:00</b> | <b>0:35</b> | <b>0:20</b> |
| <b>6.0: IPv4 Routing</b>                        |             |             |             |             |             |
| <b>Week 12: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 6.1: IPv4 Routing                               | 35          | 15          | 0           | 10          | 10          |
| 6.2: Static Routing                             | 40          | 8           | 12          | 10          | 10          |
| 6.3: Dynamic Routing                            | 58          | 16          | 12          | 20          | 10          |
| 6.4: IPv4 Routing Troubleshooting               | 43          | 28          | 0           | 5           | 10          |
| 6.5: Network Communications Troubleshooting     | 51          | 9           | 12          | 20          | 10          |
| <b>Total</b>                                    | <b>3:47</b> | <b>1:16</b> | <b>0:36</b> | <b>1:05</b> | <b>0:50</b> |
| <b>7.0: IPv4 Routing Protocols</b>              |             |             |             |             |             |
| <b>Week 12: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 7.1: Open Shortest Path First (OSPF) Overview   | 37          | 22          | 0           | 5           | 10          |
| 7.2: OSPF for IPv4                              | 30          | 15          | 0           | 5           | 10          |
| 7.3: OSPF Configuration                         | 70          | 19          | 36          | 5           | 10          |
| 7.4: OSPF LSA Types and Databases               | 31          | 16          | 0           | 5           | 10          |
| 7.5: Adjacency Troubleshooting                  | 51          | 12          | 24          | 5           | 10          |
| 7.6: EIGRP for IPv4 Routing                     | 36          | 21          | 0           | 5           | 10          |
| 7.7: EIGRP for IPv4 Configuration               | 52          | 25          | 12          | 5           | 10          |
| <b>Total</b>                                    | <b>5:07</b> | <b>2:10</b> | <b>1:12</b> | <b>0:35</b> | <b>1:10</b> |
| <b>8.0: IPv6 Routing</b>                        |             |             |             |             |             |
| <b>Week 13: Due 12:00 PM EST (US)</b>           |             |             |             |             |             |
| 8.1: IPv6 Routing Overview                      | 39          | 19          | 0           | 10          | 10          |



|   |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|
| 8.2: OSPFv3   | 27          | 12          | 0           | 5           | 10          |
| 8.3: EIGRPv6  | 28          | 13          | 0           | 5           | 10          |
| <b>Total</b>  | <b>1:34</b> | <b>0:44</b> | <b>0:00</b> | <b>0:20</b> | <b>0:30</b> |
| <b>9.0: Wireless Networks</b>                           |             |             |             |             |             |
| <b>Week 13: Due 12:00 PM EST (US)</b>                   |             |             |             |             |             |
| 9.1: Wireless Concepts                                  | 36          | 16          | 0           | 10          | 10          |
| 9.2: Wireless Standards                                 | 42          | 27          | 0           | 5           | 10          |
| 9.3: Wireless Configuration                             | 59          | 20          | 24          | 5           | 10          |
| 9.4: Wireless Network Design                            | 70          | 26          | 24          | 10          | 10          |
| 9.5: Wireless Network Implementation                    | 43          | 16          | 12          | 5           | 10          |
| 9.6: SOHO Configuration                                 | 66          | 29          | 12          | 15          | 10          |
| 9.7: Wireless Security                                  | 66          | 34          | 12          | 10          | 10          |
| 9.8: Wireless Troubleshooting                           | 77          | 26          | 36          | 5           | 10          |
| <b>Total</b>  | <b>7:39</b> | <b>3:14</b> | <b>2:00</b> | <b>1:05</b> | <b>1:20</b> |
| <b>10.0: WAN Implementation</b>                         |             |             |             |             |             |
| <b>Week 14: Due 12:00 PM EST (US)</b>                   |             |             |             |             |             |
| 10.1: WAN Types   | 29          | 9           | 0           | 10          | 10          |
| 10.2: Leased Line WAN Links                             | 61          | 17          | 24          | 10          | 10          |
| 10.3: Network Address Translation (NAT)                 | 71          | 20          | 36          | 5           | 10          |
| 10.4: WAN Troubleshooting                               | 64          | 13          | 36          | 5           | 10          |
| <b>Total</b>  | <b>3:45</b> | <b>0:59</b> | <b>1:36</b> | <b>0:30</b> | <b>0:40</b> |
| <b>11.0: Advanced Switching</b>                         |             |             |             |             |             |
| <b>Week 14: Due 12:00 PM EST (US)</b>                   |             |             |             |             |             |
| 11.1: Virtual LANs (VLANs)                              | 44          | 12          | 12          | 10          | 10          |
| 11.2: Trunking  | 82          | 16          | 36          | 20          | 10          |
| 11.3: Spanning Tree                                     | 103         | 44          | 24          | 25          | 10          |
| 11.4: Spanning Tree Configuration                       | 104         | 24          | 60          | 10          | 10          |
| 11.5: Router-on-a-Stick InterVLAN Routing               | 63          | 26          | 12          | 15          | 10          |
| 11.6: Switch InterVLAN Routing                          | 80          | 12          | 48          | 10          | 10          |
| 11.7: Switch Troubleshooting                            | 66          | 10          | 36          | 10          | 10          |
| <b>Total</b>  | <b>9:02</b> | <b>2:24</b> | <b>3:48</b> | <b>1:40</b> | <b>1:10</b> |
| <b>12.0: Access Control Lists</b>                       |             |             |             |             |             |
| <b>Week 15: Due 12:00 PM EST (US)</b>                   |             |             |             |             |             |
| 12.1: Access Control Lists (ACLs)                       | 103         | 42          | 36          | 15          | 10          |
| 12.2: IPv6 and Extended ACLs                            | 116         | 38          | 48          | 20          | 10          |
| <b>Total</b>  | <b>3:39</b> | <b>1:20</b> | <b>1:24</b> | <b>0:35</b> | <b>0:20</b> |
| <b>13.0: Network Management</b>                         |             |             |             |             |             |
| <b>Week 15: Due 12:00 PM EST (US)</b>                   |             |             |             |             |             |
| 13.1: Network Time Protocol (NTP)                       | 20          | 5           | 0           | 5           | 10          |
| 13.2: System Message Log                                | 22          | 7           | 0           | 5           | 10          |
| 13.3: Simple Network Management Protocol                | 33          | 18          | 0           | 5           | 10          |
| 13.4: NetFlow   | 21          | 6           | 0           | 5           | 10          |
| 13.5: Quality of Service (QoS)                          | 24          | 9           | 0           | 5           | 10          |
| 13.6: Enterprise Networking                             | 37          | 17          | 0           | 10          | 10          |
| 13.7: Cloud Resources                                   | 27          | 7           | 0           | 10          | 10          |
| 13.8: Virtual Private Networks and Remote Switch Access | 29          | 9           | 0           | 10          | 10          |
| 13.9: Default Gateway Redundancy                        | 44          | 12          | 12          | 10          | 10          |

|   |             |                            |             |              |             |
|---|-------------|----------------------------|-------------|--------------|-------------|
| 13.10: Network Automation   | 30          | 5                          | 0           | 15           | 10          |
| <b>Total</b>  | <b>4:47</b> | <b>1:35</b>                | <b>0:12</b> | <b>1:20</b>  | <b>1:40</b> |
| <b>14.0: Network Security</b>   |             |                            |             |              |             |
| <b>Week 16: Due 12:00 PM EST (US)</b>                                 |             |                            |             |              |             |
| 14.1: Network Threats   | 46          | 21                         | 0           | 15           | 10          |
| 14.2: Network Security Best Practices                                 | 58          | 26                         | 12          | 10           | 10          |
| 14.3: Switch Security   | 141         | 27                         | 84          | 20           | 10          |
| 14.4: Malware   | 54          | 24                         | 0           | 20           | 10          |
| 14.5: Combat Malware  | 74          | 11                         | 48          | 5            | 10          |
| 14.6: Sniffing  | 74          | 30                         | 24          | 10           | 10          |
| 14.7: Session Hijacking   | 75          | 26                         | 24          | 15           | 10          |
| 14.8: Denial of Service   | 77          | 28                         | 24          | 15           | 10          |
| <b>Total</b>  | <b>9:59</b> | <b>3:13</b>                | <b>3:36</b> | <b>1:50</b>  | <b>1:20</b> |
| <b>15.0: Cryptography</b>   |             |                            |             |              |             |
| 15.1: Cryptography  | 67          | 25                         | 12          | 20           | 10          |
| 15.2: Cryptanalysis and Cryptographic Attack Countermeasures          | 26          | 11                         | 0           | 5            | 10          |
| <b>Total</b>  | <b>1:33</b> | <b>0:36</b>                | <b>0:12</b> | <b>0:25</b>  | <b>0:20</b> |
| <b>Total Course Time 70:45</b>  |             |                            |             |              |             |
| <b>Practice Exams</b>   |             |                            |             |              |             |
| <b>A.0: TestOut Routing and Switching Pro Practice Exams</b>          |             | <b>Number of Questions</b> |             | <b>Time</b>  |             |
| A.2: TestOut Routing and Switching Pro Practice Exams - All Questions | 99          |                            |             | 19:48        |             |
| A.3: TestOut Routing and Switching Pro Certification Practice Exam    | 15          |                            |             | 2:00         |             |
| <b>Total</b>  | <b>114</b>  |                            |             | <b>21:48</b> |             |
| <b>B.0: Cisco CCNA 200-301 Practice Exams</b>                         |             | <b>Number of Questions</b> |             | <b>Time</b>  |             |
| B.2: Cisco 200-301 CCNA Practice Exams - 20 Random                    | 120         |                            |             | 2:00         |             |
| B.3: Cisco 200-301 CCNA Practice Exams - All Questions                | 616         |                            |             | 10:16        |             |
| B.4: Cisco 200-301 CCNA Practice Exams - Practice Certification       | 90          |                            |             | 2:00         |             |
| <b>Total</b>  | <b>826</b>  |                            |             | <b>14:16</b> |             |
| <b>Total Practice Exam Time 36:04</b>                                 |             |                            |             |              |             |

## **Program Cost**

**Phase 1,2: \$1,200** – TestOut and Training Services

**Phase 3: \$450** – One Year Access – Career Services & Practice labs

**Total Cost: \$1650 USD - [Registration Form](#)**

**Note:** \*Premium members with active lab membership will not have to pay for phase 3, If premium membership for practice lab is expired, members must renew premium membership before taking our live training.

### **Support Policy:**

JSS will provide basic support for [testout.com](http://testout.com) and practice labs such login issues or other account issues.

JSS will not provide support for external platforms content or labs, they have dedicated support teams for any issues.

JSS will not provide support for home lab setup created by our members.

### **Refund Policy:**

JSS does not provide refunds, we provide all details so members have full visibility on all the phases and the resources used in this training.

