**(Prerequisite: CIS 106)**

**NOTE:** This course will use Teaching Assitants (TAs) to assist Professor Spencer with the teaching experience.

**COURSE DESCRIPTION**

This course emphasizes on fundamental concepts as well as essential skills required to administer operating systems, networks, software, file systems, file servers, Web systems, database systems, system documentation, policies and procedures. Topics include the methods required to select, deploy, integrate, and administer computing platforms or components that support an organization’s information technology infrastructure. The fundamentals of hardware, software, and how they integrate to form essential components of systems are also explored.

**INSTRUCTIONAL MATERIALS**

**Required Resources**

TestOut - LabSim A+ user license for PC Pro.

*This is an 18-month license to all the materials required for both CIS 106 and CIS 312. Students DO NOT have to purchase a separate code for CIS 312 if they complete both courses within 18 months. It is highly recommended that students take both classes in consecutive terms, and that the associated A+ Certification exams be taken as soon as possible after successful completion of each course. Contact your instructor or the Dean of Faculty if you have any questions regarding the timing of the certification examinations.*

**CompTIA A+ Certification**

This course is designed to prepare you to take the [CompTIA A+ 220-902 certification exam](https://certification.comptia.org/certifications/network).

**COURSE LEARNING OUTCOMES**

1. Analyze the operational features of mobile operating systems.
2. Survey Windows system functionality, tools, and maintenance.
3. Assess processes for component selection.
4. Evaluate file storage management best practices.
5. Examine best practices for securing technologies.
6. Troubleshoot various operating system issues.
7. Use technology and information resources to research issues in information technology.
8. Communicate clearly and professionally about information technology topics.

**Note:** You must participate in every weekly discussion in this course. They are not only a significant part of your grade, but this is also the only way your course attendance is recorded each week.

**Note regarding TestOut labs:**  This course guide outlines the due dates for your TestOut labs.  These due dates are governed by the late policy for the school.  Please note that your most recent score will be recorded in the official gradebook here in Blackboard.  STUDENTS ARE REQUIRED to keep a close eye on their grades transferring over from TestOut to ensure accuracy.  Students are encouraged to re-take the TestOut labs as many times as they’d like PRIOR to the due date and must work with their instructor to complete labs after the due date.  Instructors have discretion on how flexible to be regarding the late policy.  Students may go back at any time to retake TestOut labs, but grades are only affected in accordance with the class policies.  Note further that this does not apply to the final exam.

**WEEKLY COURSE SCHEDULE**

The standard requirement for a 4.5 credit hour course is for students to spend 13.5 hours in weekly work. This includes preparation, activities, and evaluation regardless of delivery mode.

| **Week** | **Learning Activities and Evaluation** |
| --- | --- |
| 1 | **Overview of Computing**  *ACTIVITIES*   * Introductions: Please introduce yourself to your peers and your professor. Discuss your career goals. Also, if you took the [CompTIA A+ 220-901](https://certification.comptia.org/certifications/network) in CIS 106, share your experience. If you have not yet taken it, when are you planning to? * TestOut PC Pro   + Pre-Assessment (weight: 1%)   + 1. Computing Overview     - 1.1 Course Introduction     - 1.2 Using the Simulator     - 1.3 Hardware Basics     - 1.4 Windows Basics     - 1.5 Linux Basics     - 1.6 Mac OS Basics * Hands on Activities in TestOut (20 pts)   + 1.2.2   + 1.2.4   + 1.3.6   + 1.5.4   + 1.5.5   *EVALUATION*   * Assessment 1 (70 pts) |
| 2 | **Mobile Devices**  *ACTIVITIES*   * TestOut PC Pro   + 8. Mobile Devices     - 8.1 Notebook Computers     - 8.2 Notebook Components     - 8.3 Notebook Power Management     - 8.4 Notebook Troubleshooting     - 8.5 Mobile Devices     - 8.6 Mobile Devices Networking     - 8.7 Mobile Devices Security     - 8.8 Mobile Devices Troubleshooting * Hands on Activities in TestOut (20 pts)   + 8.3.5   + 8.3.6   + 8.6.7   *EVALUATION*   * Assessment 1 (70 pts) |
| 3 | **System Management, Part I**  *ACTIVITIES*   * TestOut PC Pro   + 9. System Management     - 9.1 Windows System Tools     - 9.2 Preferences and Settings     - 9.3 Performance Monitoring     - 9.4 Users and Groups     - 9.5 Remote Services * Hands on Activities in TestOut (20 pts)   + 9.4.6   + 9.5.7   *EVALUATION*   * Assessment 1 (70 pts) |
| 4 | **System Management, Part II**  *ACTIVITIES*   * TestOut PC Pro   + 9. System Management     - 9.6 Windows Application Management     - 9.7 Linux Application Management     - 9.8 Digital Content Management     - 9.9 Updates     - 9.10 System Backup * Hands on Activities in TestOut (20 pts)   + 9.6.9   + 9.7.5   + 9.9.4   + 9.10.6   + 9.10.8   *EVALUATION*   * Assessment 1 (70 pts) |
| 5 | **System Management, Part III**  *ACTIVITIES*   * TestOut PC Pro   + 9. System Management     - 9.11 System Protection     - 9.12 System Recovery     - 9.13 Virtual Memory     - 9.14 Operating System Troubleshooting     - 9.15 Windows Boot Errors * Hands on Activities in TestOut (20 pts)   + 9.11.5   + 9.12.5   + 9.13.4   + 9.15.9   + 9.15.10   + 9.15.11   + 9.15.12   *EVALUATION*   * Assessment 1 (70 pts) |
| 6 | **System Implementation**  *ACTIVITIES*   * TestOut PC Pro   + 10. System Implementation     - 10.1 Component Selection     - 10.2 Windows Pre-Installation     - 10.3 Windows Installation     - 10.4 Post Installation     - 10.5 Virtualization * Hands on Activities in TestOut (20 pts)   + 10.3.3   + 10.5.4   *EVALUATION*   * Assessment 1 (70 pts) |
| 7 | **File Management**  *ACTIVITIES*   * TestOut PC Pro   + 11. File Management     - 11.1 Windows File Locations     - 11.2 Managing Files of Windows     - 11.3 NTFS Permissions     - 11.4 Shared Folders     - 11.5 Linux File Management * Hands on Activities in TestOut (20 pts)   + 11.2.5   + 11.2.9   + 11.3.4   + 11.4.6   + 11.5.6   + 11.5.7   *EVALUATION*   * Assessment 1 (70 pts) |
| 8 | **Security, Part I**  *ACTIVITIES*   * TestOut PC Pro   + 12. Security     - 12.1 Best Practices     - 12.2 Incident Response     - 12.3 Physical Security     - 12.4 Social Engineering     - 12.5 BIOS/UEFI Security     - 12.6 Malware Protection * Hands on Activities in TestOut (20 pts)   + 12.3.6   + 12.5.4   *EVALUATION*   * Assessment 1 (70 pts) |
| 9 | **Security, Part II**  *ACTIVITIES*   * TestOut PC Pro   + 12. Security     - 12.7 Authentication     - 12.8 File Encryption     - 12.9 Network Security     - 12.10 Firewalls     - 12.11 Proxy Servers     - 12.13 Security Troubleshooting * Hands on Activities in TestOut (20 pts)   + 12.7.5   + 12.7.6   + 12.8.4   + 12.10.4   + 12.11.4   + 12.12.4   *EVALUATION*   * Assessment 1 (70 pts) |
| 10 | **Capstone Exercises**  *ACTIVITIES*   * TestOut PC Pro   + 13. Capstone Exercises     - 13.1 Build a Computer from Scratch     - 13.2 Troubleshoot a Malfunctioning Computer     - 13.3 Troubleshoot System Startup     - 13.4 Create a Home Office Network     - 13.5 Configure the Windows Operating System     - 13.6 Troubleshoot a Mobile Device     - 13.7 Configure Linux     - 13.8 Lab Sandbox * TestOut PC Pro   + A. PC Pro Certification Practice Exam (**optional**) * Hands on Activities in TestOut (20 pts)   + 13.1   + 13.2   + 13.3   + 13.4   + 13.5   + 13.6   + 13.7   *EVALUATION*   * Assessment 1 (70 pts) |
| 11 | **Final Exam**  *ACTIVITIES*   * Final Exam (100 pts) |

**GRADING SCALE – UNDERGRADUATE**

|  |  |  |
| --- | --- | --- |
| **Assignment** | **Total Points** | **% of**  **Grade** |
| Weekly Hands-On Labs (or completion of assessment at 80% or higher)  (10 total @ 20 points each) | 200 | 20% |
| Weekly Assessments (10 total @ 70 points each) | 700 | 70% |
| Final Exam | 100 | 10% |
| Total | 1,000 | 100% |
| Extra Credit – Daily Bonus Questions | 50 | 5% |

|  |  |  |
| --- | --- | --- |
| **Points** | **Percentage** | **Grade** |
| 900 – 1,000 | 90% – 100% | A |
| 800 – 899 | 80% – 89% | B |
| 700 – 799 | 70% – 79% | C |
| 600 – 699 | 60% – 69% | D |
| Below 600 | Below 69% | F |

**ATTENDANCE POLICY**

This course uses the TestOut platform for lab work. Attendance is recorded for submitting exams in that platform.

**Technical Policy**

At Strayer University, a high-quality student education is our number-one goal. To this end, we employ various technology solutions to enhance your experience. With the use of technology, problems can arise from time to time. Therefore, the University has developed the following helpful policy and procedure to support you in getting up and running and back on track as quickly as possible in the event of any technical issue(s).

1. Students must possess or have regular access to computer equipment that is appropriate for their program.

Due to the nature of the technology studied, in IS and IT programs, the best computer to have is a PC with at least a multi-core processor and 1 GB of RAM. Windows 7 or later is also recommended, while some classes may study newer operating systems. It is possible for students to accomplish many classroom tasks with other computers, such as a Chromebook or a Mac, but it is best to have a computer available that meets the minimum system requirements of all the support materials required in program courses. Ultimately, you will save a considerable amount of time troubleshooting issues that could be avoided by acquiring the recommended computer. (NOTE: THESE REQUIREMENTS ONLY RELATE TO THE IS AND IT PROGRAMS.)

1. At the first sign of trouble, students must **communicate, document, and follow through with the appropriate individuals or department**. To avoid last-minute technical issues, students are highly encouraged to start working on their assignments as early in the week as possible. Below are the steps to follow.
2. **Communicate.** 
   1. **Call the helpdesk**. Email: [ithelpdesk@strayer.edu](mailto:ithelpdesk@strayer.edu); Phone: 866.610.8123

* Initial Contact Session with Tech Support:When you speak with a technician, you should be prepared to:
* Thoroughly describe the software you’re working with and your operating system.
* Describe the error message(s) you have gotten and what you have tried to remedy the situation.
* Please call from a quiet place, free from distractions, and have your computer available. The initial call may take some time.

1. **Document.** You should note the name of the technician, the ticket number, and also the time and date of the call. This information should be kept indefinitely, in case the same or similar problem should arise. You may have to give the information to another technician or your instructor.
2. **Follow through.** If the issue is not resolved, you are responsible for following up with the IT technician. A time should be set when you should expect to hear back. If you have not been contacted by the designated time, you should call back. You should have the first contact session information handy and document the new session as well. You should NEVER wait more than 24 hours to have an issue resolved. If you are directed to a third-party vendor for technical support on a particular product, you should document this session in exactly the same way, including the exact phone number called, time, date, technician name, and ticket number. Also, continue to communicate with your instructor about the issue if it persists.

**Now what?** You have contacted, documented, and followed-through. If the issue is still not resolved, you should then communicate the documentation you’ve gathered to your instructor. The instructor is the person who most needs to know that you are having a technical issue(s). The instructor will either contact tech support, or escalate the issue to the Dean for follow-up. This process can take another 24 hours, so the importance of students starting work early in the week is essential.

Please note: It’s possible that some issues may not be solvable by Strayer technical support, though this is rare. If the issue is determined to be the student’s equipment or software, the student may be required to secure computer resources, which are up to the specifications required.

As long as students are being proactive, communicating, documenting, and following through, their grade will not suffer. Following this resolution model, students will find that issues are solved quickly and they won’t get behind. The key to a smooth student experience is you! The more you invest in your education, the more you will get out of it!

**T**

**This browser version isn't supported.**

Your browser does not support the required media types.

Please update to the most recent release of this browser or use the newest release of Chrome or Internet Explorer.

Questions? **E-mail:** [support@testout.com](mailto:support@testout.com) or **Call:** 1.800.877.4889

**This device isn't supported.**

Please update your device to the most recent release of its system software.

Questions? **E-mail:** [support@testout.com](mailto:support@testout.com) or **Call:** 1.800.877.4889

**Este navegador não é suportado.**

Seu navegador não suporta os tipos de multimídia necessários.

Por favor, atualize seu navegador ou use Chrome ou Internet Explorer.

Perguntas? **Envie email para:** [testout@movplan.com.br](mailto:testout@movplan.com.br) ou **Ligue para:** 0800-940-0708

**This device isn't supported.**

Please update your device to the most recent release of its system software.

Perguntas? **Envie email para:** [testout@movplan.com.br](mailto:testout@movplan.com.br) ou **Ligue para:** 0800-940-0708

Next Question

CIS 312 End of Unit 3 Assessment

**Question 1 of 4**

Time spent: 0:49

http://cdn.testout.com/client-v5-1-10-524/commonimages/x.png

Mark this question for review

Drag each definition on the left to its corresponding performance counter on the right. Each definition may be used once, more than once, or not at all.

**Drag**

The amount of time the processor spends performing non-idle tasks.

The amount of time that the disk subsystem is busy reading from and writing to disk.

The number of read and write requests that are waiting to be processed.

The amount of memory that has been assigned to running processes.

The number of hard faults that occur each second.

**Drop**

Disk Queue Length

Processor utilization

Commit Charge

Disk Time

Page File Usage

Memory Pages per Second

**Start Exam**

**Cancel Exam**

**CIS 312 End of Unit 3 Assessment**

**Exam Information**

• No time limit.

• 4 questions.

**Exam Features**

• Questions are presented in random order.

• You can skip questions and return to previous questions.

**After Finishing the Exam**

• You can view your score in the exam report.

• If you did not feel comfortable with the concepts and tasks in the test, consider re-studying the prerequisite material.

This exam has a time limit

**Cancel Exam**

**Start Exam**

Time spent: 0:49