Tompkins Cortland Community College

Master Course Syllabus

Course Discipline and Number: CSS 112 **Year: 2025-2026**

Course Title: Hardware Repair and Maintenance **Credit Hours: 3**

I. Course Description: This course prepares students to design, build, upgrade, maintain, and repair computer information system devices. Students will develop skills which prepare them to pursue an A+ certification in hardware. Students develop these skills through hands-on and virtual lab experiences. Prerequisites: Prior completion of, or concurrent enrollment in, ENGL 100 or ESL 120, 121, and 122 if required by placement. 3 Cr. (2 Lec., 2 Lab.) Fall semester.

II. Additional Course Information:

1. This is a required course for the Computer Support Systems AAS.
2. Students must have access to a computer with Windows, Mac OSX, or Linux installed. ChromeBooks and iPads are not appropriate for this course.
3. The text for this course is online; payment of an access fee is required. (2022 cost is $129)

III. Student Learning Outcomes

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

1. Define and describe the hardware components of a computer information system device.
2. Demonstrate the installation of key components of a computer information system device.
3. Describe core concepts related to the interaction of key hardware components within a computer information system device.
4. Analyze the operation of a computer information system device and implement recommendations for hardware repair or replacement in real world scenarios.

IV. Tompkins Cortland Institutional Learning Outcomes; Program Learning Outcomes; SUNY General Education Competencies and Knowledge and Skills Areas

Tompkins Cortland ILOs N/A

Complete this section for "service" courses only (e.g., courses that are required of all students; courses that are not program specific but satisfy liberal arts requirements; or commonly used in multiple academic programs to meet non-program-specific requirements). Check only Institutional Learning Outcomes (ILOs) that are meaningfully developed and assessed in this course. For each ILO chosen, include the SLO to which it aligns.

Students will:

☐ Communicate effectively, in oral and written forms, taking into consideration audience and purpose.

☐ Apply principles and methods of scientific inquiry and quantitative reasoning appropriate to their discipline.

☐ Use information, critical thinking, and the creative process to solve problems and reach conclusions.

☐ Use technology appropriate to their discipline.

☐ Describe the ways in which social, economic, or environmental sustainability depends on their own and the collective contributions of a diversity of ideas and people.

Program Learning Outcomes

Complete this section for program-specific courses (e.g., those that share the same discipline code as the academic program or satisfy requirements in related programs). List the academic program(s) here and note which Student Learning Outcomes align to specific Programmatic Learning Outcomes. Please see the MCS Instructions for more details.

Specify the Academic Program: **Computer Support Specialist AAS**

PLO: Develop and apply creative troubleshooting techniques to diagnose hardware/software/network problems.

SLO 4: Analyze the operation of a computer information system device and implement recommendations for hardware repair or replacement in real world scenarios.

PLO: Describe and apply the concepts and principles of modern computer system hardware/software installation, repair, maintenance and upgrade

SLO 2: Demonstrate the installation of key components of a computer information system device.

PLO: Apply concepts of programming, data storage, networking and hardware/software support to creative solutions for business projects and organizational challenges

SLO 3: Describe core concepts related to the interaction of key hardware components within a computer information system device

SUNY General Education Competencies

If this course assesses a SUNY GEN ED Competency, check all that apply and indicate which course outcome(s) address each checked item:

☒ CRITICAL THINKING & REASONING- Students will:

a. clearly articulate an issue or problem;
b. identify, analyze, and evaluate ideas, data, and arguments as they occur in their own or others' work; acknowledge limitations such as perspective and bias; and
c. develop well-reasoned (logical) arguments to form judgments and/or draw conclusions.

Course SLO(s):

4. Analyze the operation of a computer information system device and implement recommendations for hardware repair or replacement in real world scenarios.

☐ INFORMATION LITERACY - Students will:

a. locate information effectively using tools appropriate to their need and discipline; evaluate information with an awareness of authority, validity, and bias; and demonstrate an understanding of the ethical dimensions of information use, creation, and dissemination.

☐ **SUNY GENERAL EDUCATION Knowledge and Skills Area(s): N/A**
For courses that are approved to meet one (or more) of the ten SUNY General Education Knowledge and Skills Areas, indicate which Knowledge and Skills Area the course fulfills, and which outcome(s) are aligned with the SUNY outcomes for that area:

☐ This course does not address any of the above Tompkins Cortland ILOs, PLOs, or SUNY General Education Competencies or Knowledge and Skills Areas.

V. Essential Topics/Themes

1. System components and peripherals
2. Storage and memory
3. Wired and wireless networking
4. File management
5. Security

VI. Methods of Assessment/Evaluation

Method	% Course Grade
1. Interactive question and challenge activities	40%
2. Lab exercises	40%
3. Capstone exercise	10%
4. Final exam	10%

VII. Texts – ☒ Required ☐ Recommended ☐ Used for more than one course (list courses)

High school instructors may consult with CollegeNow for additional information.

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1. https://w3.testout.com/	☐

Editions listed are current as of date of syllabus. More recent editions may be used.

VIII. Bibliography of Supplemental Materials – None specified

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IX. Other Learning Resources

Audiovisual: https://www.professormesser.com/free-a-plus-training/220-1001/220-1000-training-course/
Electronic: None specified
Other: **https://www.comptia.org/certifications/a**

Attendance Policy: *To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.*

Services for Students with Disabilities: *It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for academic adjustments. All course materials are available in alternate formats upon request.*

Academic Integrity: *Every student at Tompkins Cortland Community College is expected to act in an academically honest fashion in all aspects of his or her academic work: in writing papers and reports, in taking examinations, in performing laboratory experiments and reporting the results, in clinical and cooperative learning experiences, and in attending to paperwork such as registration forms.*
Any written work submitted by a student must be his or her own. If the student uses the words or ideas of someone else, he or she must cite the source by such means as a footnote. Our guiding principle is that any honest evaluation of a student's performance must be based on that student's work. Any action taken by a student that would result in misrepresentation of someone else's work or actions as the student's own — such as cheating on a test, submitting for credit a paper written by another person, or forging an advisor's signature — is intellectually dishonest and deserving of censure.
Several degree programs offer student learning opportunities (such as internships, field work, and clinical experiences) outside the standard classroom setting. As part of the learning process, students must understand and engage in conduct that adheres to principles guiding employment within the professional workplace. These behaviors include, but are not limited to, academic integrity, accountability, reliability, respect, use of appropriate language and dress, civility, professional ethics, honesty, and trustworthiness. Disciplinary action may be initiated for inappropriate conduct occurring while participating in any course-related project or event.