

Microcomputer Hardware

CIS-151 3

Fall Term 2023-2024 School Year Section 3 3.00 Credits 08/21/2023 to 12/08/2023 Modified 08/16/2023

Meeting Times and Location

Monday, Wednesday, 1:00 PM - 2:50 PM, Technology Center 109 (8/21/2023-12/8/2023)

Contact Information

Instructor: Merrel Pepper

Email: merrel.pepper@southeasttech.edu

Office: TC 109

Phone: 6053675513

Office Hours

M-Th 11-noon and M-Th 12:30-1

TC 109 TC 121

Course Description

Designed to teach the architecture and inner workings of the IBM/IBM compatible personal computer and associated peripheral devices. The main emphasis is aimed at providing a thorough understanding of how hardware devices work and interact with each other. Students will build several types of microcomputers, load software, and become familiar with operating the personal computer system. Skills required to install upgrades will also be taught.

Outcomes

- Course Outcome and Objective
 - Translate the computer numbering systems.
 1. Identifying the decimal numbering system
 2. Identifying the binary numbering system

3. Identifying the hexadecimal numbering system
 4. Converting between decimal, hex, binary and the reverse
 5. Applying multiple types of numbering systems utilized in IT
- Identify and repair basic computer hardware.
 1. Exploring, identifying, and documenting server and desktop physical hardware
 2. Researching, diagnosing, and repairing different server and workstation hardware
 3. Designing and budgeting for a PC in a given situation or installation
 4. Using software utilities to identify and diagnose different PC problem
 - Explain the roles and responsibilities of an IT professional and present information to fellow team members.
 1. Researching information for a given IT topic
 2. Organizing information located into essential and non-essential information
 3. Creating handouts, PowerPoints, diagrams, and informational documents for a presentation
 4. Presenting information to an audience at a level for their benefit and understanding
 5. Practicing good IT customer service skills

Additional Outcomes

TASKS:

- Select the appropriate computer components to build, repair, or upgrade personal computers
- Explain how to correctly use tools and safely work in a lab
- Install components to build, repair, or upgrade personal computers
- Explain how to perform preventive maintenance and troubleshooting on personal computers
- Install Windows operation systems
- Perform management and maintenance of Windows operating systems
- Configure computers to communicate on a network
- Configure devices to connect to the Internet and Cloud services
- Explain how to use, configure, and manage laptops and mobile devices
- Explain how to configure, secure and troubleshoot mobile, OS X, and Linux operating systems
- Install and share a printer to meet requirements
- Implement basic host, data, and network security
- Explain the roles and responsibilities of the IT professional
- Troubleshoot advanced hardware and software problems
- Convert binary, decimal and hexadecimal number systems
- Design a computer lab, research and purchase requisite materials for the lab and present findings in class
- Cisco Packet Tracer activities

Course Materials

IT Essentials Labs and Study Guide Version 7

Author: Allan Johson

Publisher: Cisco Press

Edition: 1st

ISBN: 978-0-13-561203-3

Availability: Bookstore

Lab Materials

Tools (available from Southeast Bookstore):

Basic PC tool kit (ONLY if student does not have tool kit from ET-113)

Antistatic wrist strap

1 – 1.5 to 2 inch 3 ring binder

Cat 5 Crimper (at bookstore or buy on your own)

Deliverables

Deliverable

Lecture, labs, videos, audio and possibly industry speakers

Evaluation Procedures and Grading

Criteria

The grading scale is as follows:

<u>GRADE</u>	<u>PERCENTAGES</u>
A	90 - 100%
B	80 - 89%
C	70 - 79%
D	60 - 69%

Breakdown

Exams, Tests, Quizzes	45%
Chapter Homework/Take-Home Labs:	25%
Lab Projects:	30%

* Course Expectations

Class Expectations

TARDINESS / ABSENCES / LATE WORK / MISSED TEST POLICY:

Tardiness begins the minute class starts, so plan to be on time. After four occurrences of tardiness, a student will receive one full class period absence. Attendance is tracked to the minute. Students are responsible for checking attendance posted on Mytech. Leaving early without having the weeks objectives met will result in attendance being adjusted..

Absences also have a negative effect on the learning environment and ultimately the employment environment. To better prepare you for employment, this course has expectations that emulate those of a normal job. Students are responsible for checking attendance posted on MyTech. **In all cases of absence, it will be necessary to make up any missed coursework. Missed coursework is due the class period following the absence. Missed lab work can be made up in another section or when the lab is available. Leaving early without having daily assignments completed, will result in a deduction in your attendance.**

Late Work: Late labs and coursework will have a deduction \ (not including quizzes). Coursework later than one class period will have no grade value. Failure to complete all assignments may result in an incomplete or a failing grade. It is very important to stay current in order to do well in this class. Please use the published office hours and tutoring hours if additional lab time is required.

Missed Tests: There are no make

ups for missed tests. The student is responsible for coordinating for the time to take the test early.

Additional Items

Communication devices have become a very important part of our society. Computers, pagers and cell phones are commonplace and very useful tools. There are, however times and places where the use of these devices is inappropriate. The policy in this class is as follows:

- Cell phones and pagers are to be turned off during class unless specific arrangements have been made with your instructor.
- Laptop computers are to remain off and closed during class unless otherwise instructed.
- Display of any explicit material is prohibited. This includes but is not limited to wallpaper, screen savers, e-mail images and display of inappropriate websites.
- Instant messaging services and chat rooms are not to be used at any time during class.

Students can be removed from the classroom and lose the points for that day for each instance of improper use of technology in the classroom

Course Outline

Institutional Policies

Course Subject to Change

The syllabus is a statement of intent and schedule of topics, activities, assessments, and requirements as well as an overall road map to ensure students will achieve both the course learning objectives and the program-level learning objectives.

The scheduled educational activities are subject to change with reasonable advance notice to students by either the instructor or academic administration. The grading and attendance policies are not subject to change once posted.

Students wishing to appeal changes to a course syllabus must first do so in writing to their instructor. If a successful resolution is not achieved after submitting the written appeal, the student has the option to file a written appeal to the appropriate Associate Dean of Curriculum and Instruction or Dean of Curriculum and Instruction. If the second level appeal does not result in a resolution, the student can submit a final appeal to the Vice President of Academic Affairs. The review and final decision of the Vice President of Academic Affairs is final and not subject to appeal.

Attendance

Administrative Withdraw for Non-Attendance

Students are expected to attend all sessions of courses for which they are enrolled. Absences do not excuse the student from meeting course requirements. Each instructor will evaluate the student's progress to determine how to handle outstanding assignments and assessments. Students attending 16 week courses who have a record of zero attendance for fourteen (14) calendar days will be administratively withdrawn from the course(s) the absence is occurring, resulting in a grade of "W" for the course. Students attending courses of less than a 16 week duration, who have a record of zero

attendance for seven (7) calendar days will be administratively withdrawn. Students who receive financial aid may have their financial aid status affected. More information is located in the [Southeast Tech Catalog](https://catalog.southeasttech.edu/index.php) (<https://catalog.southeasttech.edu/index.php>):

Course Recording Statement

Delivery of some courses at STC allows flexible participation options for students in time and location. Courses may be made available to properly enrolled students who are not physically in the classroom, and/or a time delayed recording made available to all properly enrolled students. In addition to instructional content, remote delivery may include capture of all classroom audio and visual happenings during designated class times, including that of students who may be part of the class, but who are not physically in the classroom. By remaining in classes capturing audio and visual happenings, you are agreeing to this statement.

Student Learning Outcomes

Student success is important to Southeast Tech faculty, and all faculty are involved in assessing student learning. Upon graduation, Southeast students will have competence in the following four common learning outcomes:

Technical Skills: Students will be able to explain industry-relevant concepts (knowledge) and demonstrate industry-relevant technical skills (performance).

Communication: Students will be able to define the purpose of the communication; organize and structure the communication; provide supporting material; demonstrate precision of language; and professionally deliver and format the communication.

Problem Solving & Critical Thinking: Students will be able to define the problem; analyze the problem; generate solutions; evaluate solutions; and select the best solution.

Professionalism: Students will be able to demonstrate positive work ethic; collaborate as part of a team; adapt to change; adhere to professional standards; and model integrity and ethics.

Student Conduct, Cheating and Plagiarism

Students attending Southeast Technical College are expected to follow policies and requirements in the Southeast Technical College Student Handbook: [STC Student Handbook](https://catalog.southeasttech.edu/index.php) (<https://catalog.southeasttech.edu/index.php>). In addition, some departments have academic handbooks for their areas that outline expected student conduct.

Southeast policies authorize the Vice President of Academic Affairs to suspend or terminate any student from the college for misconduct as outlined in the rules of this policy. The following student misconduct shall constitute grounds for student discipline, suspension, or termination when such activity occurs on school grounds, in the online course environment or during an educational function under the auspices of the school board: acts of dishonesty, including cheating and plagiarism or other forms of dishonesty relating to academic achievement such as the misuse of technology, software, apps, or other computer-assisted or artificial intelligence in violation of individual course or assignment policies as defined by instructors.

Test Proctoring

The Southeast Testing Center offers test proctoring located in the Wood Center Building, Room 103. Online instructors will communicate details regarding required test proctoring and how to sign up to take these assessments. Testing Center contact information: 605.367.6014 or testing@southeasttech.edu

Academic Resource Center (ARC)

Your success is important to us! In addition to meeting with your instructor for academic assistance, STC students are encouraged to use the free tutoring and other support services in the Academic Resource Center (ARC) to reinforce understanding of course concepts and improve performance in courses. ARC offers one-on-one tutoring for course assignments or skill building (e.g., test-taking strategies, note-taking, memorization, etc.) with faculty or peer tutors. Learn more about these services by visiting the ARC page found in the Student tab of myTech.

Student Mental Health

Mental health and overall well-being are significant predictors of academic success. As such it is essential that during your college experience you develop the skills and optimize resources effectively to navigate stress, anxiety, depression, and other mental health concerns. Please familiarize yourself with the range of resources Southeast Tech provides and seek out support for mental health concerns as needed. Individual counseling services are available in the Sullivan Health Science Center or virtually via Teams-based video, Telephone, or Email. Please visit [Personal Counseling on myTech \(https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Personal_Counseling.jnz\)](https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Personal_Counseling.jnz) to complete the Personal Counseling form. Contact the counselor at [counseling@southeasttech.edu \(mailto:counseling@southeasttech.edu\)](mailto:counseling@southeasttech.edu) or 605-367-4821 for more information and to schedule a session. Crisis Counseling is available nationwide by calling 988, and in the Sioux Falls area via the Helpline Center at [Helpline Center Website \(https://www.helplinecenter.org/\)](https://www.helplinecenter.org/)

Safety

Violation of safety to self and others and/or violations of safe operating practices of equipment may result in the reduction or loss of a daily grade, removal from class, and/or other disciplinary action.

ADA and Accessibility Services

It is the policy and practice of Southeast Technical College and the instructor of this course to act with integrity, engage in equitable conduct with respect to differences in age, gender, race, disability, and religion, and to create inclusive and accessible learning environments consistent with federal and state laws. In accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Americans with Disabilities Amendment Act of 2008, Southeast Technical College ensures that no student with a disability will be discriminated against or denied access to participate in, or benefit from, programs, services and activities. If you are a student with a documented disability, think you may have a disability, or have a temporary health condition that requires accommodations,

please visit the [Accessibility Services \(https://www.southeasttech.edu/student-life/accessibility-services.php\)](https://www.southeasttech.edu/student-life/accessibility-services.php) website, call 605-367-6110, or email access@southeasttech.edu (<mailto:access@southeasttech.edu>). All students are encouraged to discuss access-related needs with their instructors and the Accessibility Services Office as soon as possible in their academic career.

Freedom of Speech

Southeast Tech strives to create an environment in which diverse opinions can be expressed and heard. Students have the right to peacefully express their views and opinions, regardless of whether others may disagree, but not in such a way as to interfere with the rights of others or the operation of the college. Views expressed should not violate any of Southeast Tech policies or core values.

Southeast Technical College students are both citizens and members of the Southeast Tech community. Students should enjoy the same freedom of speech, peaceful assembly, and right to petition that other citizens enjoy and should abide by the obligations and expectations as members of the Southeast Tech community.

Notice of Nondiscriminatory Policy

Southeast Tech is committed to a policy of equal opportunity for all in every aspect of its operations. Southeast Tech does not discriminate on the basis of race, color, creed, religion, age, gender (including pregnancy), sexual orientation, disability, national origin or ancestry, military/veteran status, genetic information, or any other category protected by law in its educational programs, admissions policies, employment policies, financial aid, or other institute-administered programs. Click this link for more information: [Non-Discriminatory Policy and Contact Information \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Title IX/Sexual Misconduct/Sexual Assault/Sexual Offense

Southeast Tech is committed to providing a learning and working environment free of unlawful harassment based on an individual's race, color, religion, creed, ancestry, national origin, gender, sexual orientation, disability, age, protected military/veteran status, genetic information or any other basis protected by law. Concerns may be reported directly to this individual in person, by calling 605-367-4670, or by emailing Brett.Arenz@k12.sd.us. Individuals with immediate concerns should call campus security at 605-941-9003. For more information, click this link: [Title IX in Student Catalog \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Sexual Misconduct

Southeast Tech is committed to providing a learning and working environment that emphasizes the dignity and worth of every member of its community, free from discriminatory conduct. Sexual harassment in any form or context is contrary to this commitment and will not be tolerated. Sexual harassment subverts the mission and the work of Southeast Tech and can threaten the career, educational experience, and well-being of students, faculty, and staff.

Southeast Tech recognizes that sexual harassment includes harassment based on gender, sexual orientation, gender identity, or gender expression and may occur regardless of the formal position or status of each person involved. Sexual harassment is especially offensive, however, when it occurs in relationship between an instructor and student or between supervisor and subordinate. In those situations, sexual harassment exploits unfairly the power inherent in the position of the faculty member or supervisor.

Sexual harassment also constitutes a form of sexual discrimination that is illegal under Title VII of the Civil Rights Act of 1964, Title IX of the Elementary/Secondary Education Act of 1972, as amended, and state law. Southeast Tech also recognizes that sexual assault, domestic violence, dating violence, and stalking may also be considered sexual harassment.

Students have the right to be free of sexual misconduct while pursuing their education at Southeast Tech which would include participating in any off-campus activity such as internships, clinical experiences, and preceptor experiences.

Students should immediately report any form of sexual misconduct to their instructor or the designated contact at Southeast Tech.

Student Right-to-Know/Campus Security Act

Southeast Tech is required under Public Law 101-542 to encourage students to report all crimes (murder, rape, forcible or non-forcible sex offenses, robbery, aggravated assault, burglary, motor vehicle and other thefts or crimes) which occur on the Southeast Tech Campus to the local law enforcement offices and to the Southeast Tech Student Success Center or campus security. For more information on Student Right to Know/Campus Security Act, click this link: [Student Right to Know - Campus Security Act \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Family Educational Rights & Privacy Act

FERPA stands for the Family Educational Rights and Privacy Act of 1974. It is a federal law governing the privacy and handling of educational records and giving specific rights to students. You can find more information about the law at [FERPA Website \(https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html\)](https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html).

Student Communications

Southeast Tech's student email accounts will be used as Southeast Tech's official means of communications with students. Southeast Tech students should also use the myTech Student and Campus Life tabs for information regarding important upcoming events and required dates for fee payment, etc. The Student and Campus Life tabs will also inform students about job opportunities, scholarship information, and other important announcements.