



MERCER
COUNTY COMMUNITY COLLEGE

COURSE OUTLINE

| Course Number | Course Title | Credits |
|------------------------------------|------------------------------------|--|
| IST 102 | Computer Concepts with Programming | 3 |
| Hours: Lecture/Lab/Other 2/2 | Co- or Pre-requisite None | Implementation Semester & Year Spring 2023 |

Catalog description:

An introduction to computer literacy including a programming laboratory. Lectures cover the Internet; software; system components; peripherals; communications; databases; security, ethics, and privacy; programming languages; and enterprise computing. The laboratory covers forms, menus, decisions, loops, arrays, searching, the user interface, and database programming with Java.

General Education Category:

Goal 4: Technology or Info Literacy
Choose an item.

Course coordinator:

Dr. Queen Okike. (609)570 3464, okikeq@mccc.edu

Current Book information including ISBN where appropriate:

1. **Technology In Action Complete, Global Edition, 17/e Evans, Martin & Poatsy. ISBN 9780136903666**
2. **Starting Out With Java: Control Structures through Objects, 8th Edition Tony Gaddis, Haywood Community College**
3. **ISBN-13: 9780137357956**

Course Student Learning Outcomes (SLO):

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

1. Explain different types of computer categorized by user/s, tasking and processing power. [supports ILGs #4, 10; PLOs #1, 2, 6]
2. Explain parts of computer (input, output and storage devices) including the RAM. [supports ILGs #4, 10; PLOs #2, 4, 5, 6]
3. Distinguish between System and Application software. [supports ILGs #2, 4, 10; PLOs #2, 4, 5, 6]
4. Read, analyze and simulate text and online documents to create research paper using APA style in-text citation and Bibliography. [supports ILG #1, 11, 4, 10; PLOs #3, 8]
5. Create spreadsheet, input data, apply functions for calculation and create charts. [supports ILGs #2, 4, 10, 11; PLOs #7, 8]
6. Explain different databases; create relational database, forms, queries, filter and reports. [supports ILGs #2, 4, 10, 11; PLOs #7, 8]

7. Explain structures and rules in programming, code, debug and run Java program. [supports ILGs #2, 4, 11; PLOs #7, 8]
8. Discuss computer network and devices by type, category and topology and protocol. [supports ILGs #4, 11; PLOs #5]
9. Understand business organizations and practices, and the role of information technology in organizations.[supports ILGs #4, 10; PLOs #2, 4]

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1 Written and Oral Communication in English: Students will communicate effectively in both speech and writing.

Institutional Learning Goal 2 Mathematics: Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Institutional Learning Goal 4 Technology: Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Institutional Learning Goal 10 Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Institutional Learning Goal 11 Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Information Systems (A.S.) and Certificate of Proficiency:

Database Administration Programs (PLO)

1. Transfer to a four-year college as a junior.
2. Describe, understand, and build computer information policies and procedures.
3. Comprehend business organizations and practices, and the role of information technology in Organizations.
4. Build, explain, comprehend, and employ network protocols and technology.
5. Establish the practicability of a computer information system, assess its cost, and handle its implementation.
6. Create, code, execute, and document a computer application.
7. Function successfully independently and in groups to set up and execute information Systems,
8. Write documentations and give oral presentations in technical or business settings

Units of study in detail – Unit Student Learning Outcomes:

Unit I Introduction [Supports Course SLOs #1, 2]

Learning Objectives

The student will be able to:

- Explain how technology impacts the way we think, connect and consume
- Discuss how technology improves life at home and in career
- Explain parts of computer and digital components
- Discuss Input devices, output devices, processing, storage and connectivity
- Explain processing and memory on motherboard
- Discuss storing data and information, Connecting Peripherals to the Computer and power controls[Explain how to set All Up]
- Discuss digital components, processing, input devices, output devices, storage devices, memory and connectivity.

Unit II Software and Processes [Supports Course SLO #3, 4, 5, 6, 9]

Learning Objectives

The student will be able to:

- Describe the differences between application and system software.
- List different types of apps and software you can use on your computing devices
- List the types of applications included in productivity software suites, and describe their uses and features in large and small businesses
- Explain Networking: Connecting computing devices, functions, fundamentals, architectures, Ethernet Protocols and transmission media.
- Explain basic network hardware and software, Home Network, Installation and Configuration.
- Explain ETHICS in IT: Sharing Your, Internet Connection with Your Neighbors: Legal? Ethical? Safe?

Unit III Mobile Devices and Digital Convergence [Supports Course SLO #8]

Learning Objectives

The student will be able to:

- Discuss Mobile Devices and Digital Convergence.
- Explain Telephony: Smartphones and Beyond.
- Discuss Tablets, Netbooks, and Ultrabooks.

Unit IV Programming [Supports Course SLO #7]

Learning Objectives

The student will be able to:

- Define Software Programming
- Explain the importance of programming
- Explain The Life Cycle of an Information System, program and explore programming languages.

Unit V Database [Supports Course SLO #6]

Learning Objectives

The student will be able to:

- Describe Database basics, building blocks, types and functions.
- Discuss Data Warehousing and Storage,
- Business Intelligent System and data Mining.
- Explain Ethics in IT.

- Enormous collection of on/off switches Combined to perform addition, subtraction, and move data around.
- Discuss Technology in Focus: Careers.

Evaluation of student learning: All course student-learning outcomes will be assessed by the following activities.

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|--------------------------|------|
| Test: Chapters 1 - 11 | 20% |
| Classwork | 10% |
| Revel lab: Chapters 1-10 | 30% |
| Research Project | 5% |
| Excel Project | 5% |
| Access Project | 5% |
| Midterm Examination | 10% |
| Final Project | 5% |
| Final Examination | 10% |
| Total | 100% |