



**MERCER**  
COUNTY COMMUNITY COLLEGE

## COURSE OUTLINE

Course Number	Course Title	Credits
IST 101	Computer Concepts/Applications	3
Hours: Lecture/Lab/Other	Co- or Pre-requisite	Implementation Semester & Year
2/2/0	ENG 101 and MAT 037 or MAT 042	SPRING 2022

### **Catalog description:**

Introduces students to computer concepts and applications through both lecture and lab materials. Lectures focus on hardware and software, the Internet, multimedia, security and ethics issues, and information. Lab addresses in-depth exposure to Excel spreadsheet and Python software program language.

### **General Education Category:**

**Goal 4: Technology or Info Literacy**

### **Course coordinator:**

Terry Voldase, Associate Professor of Computer Information Systems, 609-570-3481, voldaset@mccc.edu

### **Required texts & Other materials:**

- Technology-In-Action – Digital textbook (ISBN # 9780135490181)
- Go Office 365 Excel – Digital textbook (ISBN # 9780135490181)
- MyITLab software – Materials supplied through Blackboard (ISBN # 9780135490181)
- Revel Python – Digital textbook/software – Materials supplied through Blackboard
- Python software – free software download
- Microsoft Office 2019 – free software provided by MCCC
- PC and Mac computers with software downloads permissions

### **Course Student Learning Outcomes (SLO):**

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

1. Define various concepts of computers such as computer terminology and nomenclature, with respect to personal computer hardware, software, data, networking, careers [Supports ILGs #1, 4, 11]
2. Illustrate knowledge of preparing intermediate spreadsheets using Excel software [Supports ILGs #2, 4, 9, 11]
3. Demonstrate knowledge of information literacy [Supports ILGs #1, 9, 10, 11]
4. Demonstrate the concepts and logics of software programming [Supports ILGs #1, 2, 4, 11]

## **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 9. Ethical Reasoning and Action.** Students will understand ethical frameworks, issues, and situations.

**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.

## **Units of study in detail – Unit Student Learning Outcomes:**

### **Unit I [Unit I Course Introduction and the Web] [Supports Course SLO #1]**

#### **Learning Objectives**

##### ***The student will be able to:***

- Understand course objectives and course requirements and collaborate effectively with other classmates and the professor.
- Discuss why computers are essential components in the business world and society in general.
- Demonstrate knowledge of popular web search engine.
- Manage data on the cloud and flash drives for efficient future reference.

### **Unit II [Unit II Hardware] [Supports Course SLOs #1]**

#### **Learning Objectives**

##### ***The student will be able to:***

- Describe computer terminology and nomenclature, with respect to personal computer hardware.
- Differentiate the various functions of computer hardware.
- Identify the various careers within Information Technology.
- Discuss why computers are essential components in the business world and society in general.

**Unit III** [Unit III Excel Office Application] [Supports Course SLOs #2, 4]

**Learning Objectives**

***The student will be able to:***

- Generate documents and demonstrate competence with advanced features of spreadsheet software by utilizing Excel spreadsheet software.
- Create Worksheets and Charting Data
- Interpret Functions and create Tables through the use of Excel Workbooks
- Analyze Data with Pie Charts, Line Charts, and What-If Analysis Tools
- Create PivotTables and Pivot Charts
- Manage Large Workbooks and Using Advanced Sorting and Filtering
- Demonstrate Excel software skills using Financial and Lookup Functions, Define Names, Validate Data, and AuditWorksheets

**Unit IV** [Unit IV Information Literacy] [Supports Course SLOs #1, 3]

**Learning Objectives**

***The student will be able to:***

- Assemble information from library databases and the Web in order to complete an APA research paper on a current topic in information technology.
- Evaluate sources of information for authority, reliability, currency, and bias.
- Defend a position either for or against a current ethical issue related to information technology.
- Compose and present information in an ethical and legal manner.
- Demonstrate knowledge of Word application utilizing the latest APA edition to cite and reference materials, and properly format an APA research paper.

**Unit V** [Unit V Software Programming] [Supports Course SLOs #4]

**Learning Objectives**

***The student will be able to:***

- Identify the basic concepts of software programming.
- Understand the importance of programming, the life cycle of an information system, and the life cycle of a program.
- Explore today's popular programming languages.
- Demonstrate competence of basic programming language using Python software.
- Develop software programs to demonstrate competence and understanding of Python programming skills.

**Evaluation of student learning:** [Evaluates SLOs #1, 2, 3, 4]

Students' achievement of the course objectives will be evaluated through the use of the following:

- MyITLab Lab assignments assessing students' Excel comprehension skills related to the unit objectives.
- MyITLab Chapter quizzes assessing students' comprehension of computer concepts related to the unit objectives.
- Homework and Final Research paper assessing students' comprehension through the use of Word and APA 7<sup>th</sup> edition requirements.
- Python programming Labs and Quizzes assignments assessing students' Python comprehension skills related to the unit objectives.
- Midterm and Final exams assessing students' comprehension of computer concepts and Excel applications related to the unit objectives.

**Grade Criteria**

Item	Percent	Description
MyITLab Labs	20%	Activity-based lab Assignment in Excel
MyITLab Quizzes	5%	15 Question quiz for each unit of Computer Concepts
Info. Literacy Homework	10%	3 Assignment based on your IT Topics leading to the final project
Python Labs & Quizzes	20%	Python Programming Labs – 15% Python Quizzes – 5%
APA Research Paper	15%	APA Research Paper
Mid-term Exams	10%	50 Objective-based Concept questions and 20 Activity-based Application exercises
Final Exams	20%	100 Objective-based Concept questions and 40 Activity-based Application exercises