SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
Computer Information Technology Program
Revision Date: September 2025

I. CATALOG DESCRIPTION

Course Number:	INFO1215
Course Title:	Programming Fundamentals
Prerequisite or Corequisite	INFO1171(corequisite)
Catalog Description:	This course is an introduction to problem solving and structured program design. Topics include programming basics, decisions, loops, data validation, coding of modules/functions, using Lists, Dictionaries and Sets.
Credit Hours:	3
Class Hours:	45
Lab Hours:	0
Total Contact Hours:	45

II. COURSE OBJECTIVES: *Course will:*

A. Show tools used by programmers to document and design program logic.
B. Introduce problem-solving skills.
C. Describe the basic concepts and structures of computer programming.
D. Create programs using basic programming structures.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. Student Learning Outcomes: *Students will be able to*

1. Explain how data is stored.
2. Define input, output and processing.
3. Describe the use of data types, variables and named constants.
4. Identify the purpose of standards and documentation.
5. Practice problem solving and debugging skills.
6. Use Boolean logic to make decisions.
7. Use selection and repetition structures.
8. Describe and use modules and functions.
9. Design structured programs using top-down modular design.
10. Describe and use files for IO.
11. Describe and use lists.
12. Describe and use Dictionaries and Sets
13. Develop applications using a basic programming language and IDE.

B. General Education Learning Outcomes (GELOs)

1. GELO #3: Critical Thinking & Problem Solving
Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE

- **A.** Introduction to the programming environment
- **B.** Input, processing and output
- **C.** Decision structures and Boolean logic
- **D.** Repetition structures
- **E.** Functions and modules
- **F.** Processing files
- **G.** Using lists
- **H.** Basics of string manipulation
- **I.** Using Dictionaries and Sets

V. INSTRUCTIONAL MATERIALS

- **A.** Required Text(s): To be determined by instructor
- **B.** Other resources: Computer and Internet access

VI. METHODS OF PRESENTATION/INSTRUCTION

- **A.** Methods of presentation typically include a combination of the following:
  - **1.** Technology enhanced lectures
  - **2.** Group discussions
  - **3.** Engaged leaning activities

VII. METHODS OF EVALUATION

- **A.** Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
  - **1.** Attendance and/or participation activities
  - **2.** Homework Activities
  - **3.** Programming Assignments
  - **4.** Quizzes/Tests