I. COURSE INFORMATION
A. Computer Science 109 Introduction to Computer Programming
B. 3 credit hours
C. Farrell, Joyce. *Programming Logic and Design, Comprehensive.* 9th ed. Kentucky: Cengage, 2018
D. Prerequisites: none

II. COURSE DESCRIPTION
This introductory level course covers programming principles, methodology, style, design, structures, data types, and logic.

III. LEARNING OUTCOMES
A. Define the terminology used in programming
B. Understand the three basic structures: sequence, selection, and loop
C. Knowledge of program documentation
D. Learn to make selections within ranges and to understand the precedence of structures
E. Learn to use a while loop and to control loops with sentinel values
F. Learn the basic steps involved in declaring, initializing, loading, and searching arrays
G. Define the different number of parameters that can be passed to a method: zero, one, or multiple
H. Learn the five basic concepts for object-oriented programming

IV. MAJOR CONTENT AREAS
A. An overview of computers and programming
B. Working with data, creating modules, and designing high-quality programs
C. Understanding structure
D. Making decisions
E. Looping
F. Arrays
G. File handling and applications
H. Advanced array concepts, indexed files, and linked lists
I. Advanced modularization techniques
J. Object-oriented programming
K. Event-driven gui programming, multithreading, and animation
L. System modeling with the UML
M. Using relational databases

I. ASSIGNMENTS (may include but are not limited to)
A. Exercises
B. Discussions
C. Chapter exams

II. EVALUATION METHODS (may include but are not limited to)
A. Attendance and participation
B. Application projects
C. Assignments
D. Exams