

## COP3503 Programming Standards

Proper programming techniques are emphasized throughout the course to promote good programming habits that will benefit students in their future programming endeavors. Like a coach teaching an athlete the proper techniques for swinging a bat, throwing a football, dribbling a basketball, spiking a volleyball or swimming, the instructor will emphasize essential techniques to help students write clean code, avoid common errors, and easily test and troubleshoot the code.

The following is a list of the most important programming techniques emphasized throughout the course:

- Use comments to document the program code
  - Refer to the Commenting Standards document
- Use proper indentation to make the program code more readable and prevent errors
- Use proper and consistent naming conventions for classes, methods, constants and variables
  - Class names:
    - First letter of each word should be capitalized (i.e., Math, BufferedReader)
  - Method and variable names:
    - First letter of first word should be lowercase and the first letter of all subsequent words should be capitalized (i.e., calculate, toString)
  - Constant names:
    - All letters should be capitalized and multiple words should be separated by the underscore character (i.e., PI, TAX\_RATE)
- Use proper method design conventions
  - Input values that will not be updated by the method
    - The values should be provided as input parameters (do NOT directly access global variables)
  - Input values that will be updated by the method
    - Access global variables directly to access the values (do NOT use input parameters)
  - Return a single or unique value using the **return** statement
  - Return multiple values using global variables
    - A single or unique value should be returned using the **return** statement

Students who fail to utilize the above programming techniques will have points deducted from their project grade. It is possible to write a program that meets all of the project requirements, but receives a grade of 0 for poor programming techniques. To avoid these deductions, simply employ each of the above programming techniques in every project submitted for this class. Points deducted for poor programming techniques are not negotiable.