

# CSC 152 SAS

## **COURSE DESCRIPTION:**

Prerequisites: None

Corequisites: DBA 110

This course introduces the fundamentals of SAS programming. Emphasis is on learning basic SAS commands and statements for solving a variety of data processing applications. Upon completion, students should be able to use SAS data and procedure steps to create SAS data sets, do statistical analysis, and create general customized reports. Course Hours Per Week: Class, 2. Lab, 3. Semester Hours Credit, 3.

## **COURSE OBJECTIVES:**

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

- a. Know the capabilities of the SAS language.
- b. Use the DATA and PROC steps.
- c. Design and code a SAS program to solve statistical problems.
- d. Create SAS data sets by reading in-stream raw data.
- e. Generate reports using SAS procedures PRINT, SORT.
- f. Use SAS procedures MEANS, UNIVARIATE, FREQ and CHART to produce reports of descriptive statistics from SAS data sets.
- g. Distinguish permanent and temporary SAS data sets.
- h. Update SAS existing data sets.
- i. Create new SAS data set by manipulating data from existing data sets using SAS expressions.
- j. Create new SAS data set by combining existing data sets.
- k. Create, store and use SAS labels and formats to generate customized reports.
- l. Print contents of SAS libraries and data sets.

## **OUTLINE OF INSTRUCTIONS:**

- I. Introduction to SAS
  - A. What is SAS
  - B. Using data in SAS
    - (1.) SAS Statements
    - (2.) Observations and Variables
    - (3.) Constants
    - (4.) Data Types
    - (5.) Expressions
    - (6.) Data Sets
  - C. The SAS job
- II. Create SAS data sets
  - A. DATA statement
  - B. INPUT statement

- C. CARDS statement
  - D. INFILE statement
- III. Using SAS data sets
- A. PROC SORT
  - B. PROC PRINT
  - C. PROC UNIVARIATE
  - D. PROC MEANS
  - E. PROC FREQ
  - F. PROC CHART
  - G. PROC PLOT
- IV. Basic SAS data manipulation
- A. Creating new variables
  - B. INFILE statement
  - C. IF statements
  - D. DO statement
  - E. LIST statement
  - F. OUTPUT and DELETE statements
  - G. RETURN statement
  - H. SELECT statement
  - I. KEEP and DROP statements
- V. Data Management
- A. Create permanent data sets
  - B. Concatenation
  - C. Interleaving
  - D. One-to-One Merge
  - E. Matched Merge
  - F. Updating
- VI. Custom Report Writing
- A. PROC FORMAT to create custom formats
  - B. Report Writing Statements including \_NULL\_, FIRST./LAST., RETAIN, PUT, and END=

**REQUIRED TEXTBOOK AND MATERIALS:**

To be selected by instructor.

**STATEMENT FOR STUDENTS WITH DISABILITIES:**

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.