**SNHU**

**CS-300 Analysis and Design**

**5-3 Project One Milestone**

**Professor: Michael Rissover**

**Student: Michael Wood**

**10/09/2023**

**Design pseudocode to define how the program opens the file, reads the data from the file, parses each line, and checks for file format errors.**

START use fstream to open file

CALL to open file

IF return value is -1

DISPLAY “ Error no file found”

ELSE file is found

WHILE not end of file

READ each line

IF less than 2 values

DISPLAY “Error”

ELSE

READ parameters

IF more than 2 parameters

IF 3rd parameter is 1st

ELSE “Error”

CLOSE

**Design pseudocode to show how to create course objects and store them in the appropriate data structure.**

Initialize Course Vector vector<Node>nodes

LOOP through file

WHILE not end of file

FOR each line in file

FOR the 1st and 2nd value

ADD course\_ID and course\_Name

IF 3rd value

ADD prerequisities until new line found

DEFINE binary tree class

Root POINTS to null pointer

CREATE insert method

IF root is null current course is root

ELSE course\_Number is < than root

ADD course to left side of tree

IF left is = to null

ADD course\_Number

ELSE IF course\_Number is < than leaf

ADD to left side

ELSE IF course\_Number is > than leaf

ADD to right side

ELSE IF course\_Number > than root

ADD course\_Number to left side of tree

IF right side is = to null

ADD course\_Number

ELSE IF course\_Number is < than leaf

ADD to left side

ELSE IF course\_Number is > than leaf

ADD to left side

**Design pseudocode that will print out course information and prerequisites**.

SET current Node = to root

GET user\_Input

WHILE current course\_Number is unequal to null pointer

IF current course\_Number == Input

PRINT course information

ELSE IF current course\_Number is < than 0

Traverse left

ELSE course\_Number is > than 0

Traverse right

LOOP until match found

ELSE

PRINT “Error no course found”

END