# CS 300 Pseudocode Document

## STRUCT Course

## STRING number

## STRING name

## LIST<STRING> prereqs

## END STRUCT

## FUNCTION loadCourses(path) RETURNS (LIST<Course> courses, LIST<STRING> errors)

## courses <- []

## errors <- []

## OPEN file at path

## IF open failed

## ADD "Could not open file" TO errors

## RETURN (courses, errors)

## ENDIF

## FOR EACH line IN file

## line <- TRIM(line)

## IF line = "" OR line starts with "#" THEN CONTINUE

## parts <- SPLIT line BY ",", then TRIM each

## IF LENGTH(parts) < 2

## ADD "Line needs course number and name" TO errors

## CONTINUE

## ENDIF

## c <- new Course

## c.number <- parts[0]

## c.name <- parts[1]

## c.prereqs <- []

## FOR i FROM 2 TO LENGTH(parts)-1

## IF parts[i] <> "" THEN ADD parts[i] TO c.prereqs

## END FOR

## ADD c TO courses

## END FOR

## CLOSE file

## // validate prereqs exist

## FOR EACH c IN courses

## FOR EACH p IN c.prereqs

## IF NO course in courses has number == p

## ADD "Missing prerequisite " + p + " used by " + c.number TO errors

## ENDIF

## END FOR

## END FOR

## RETURN (courses, errors)

## END FUNCTION

## FUNCTION printCourse(courses, target)

## found <- FALSE

## FOR EACH c IN courses

## IF c.number == target

## PRINT c.number + ": " + c.name

## IF c.prereqs is empty

## PRINT "Prerequisites: none"

## ELSE

## PRINT "Prerequisites: " + JOIN c.prereqs WITH ", "

## ENDIF

## found <- TRUE

## BREAK

## ENDIF

## END FOR

## IF NOT found THEN PRINT "Course '" + target + "' not found."

## END FUNCTION