# ABCU Course Advisor Program – Pseudocode (Milestone 1)

## Load Data From File

OPEN file "courses.txt" FOR reading  
  
IF file cannot be opened  
 PRINT error and EXIT  
  
INITIALIZE Vector<Course> courses  
  
FOR each line in file  
 SPLIT line by commas into tokens  
 IF number of tokens < 2  
 PRINT "Format error: missing course number or title"  
 CONTINUE to next line  
  
 courseNumber = tokens[0]  
 courseTitle = tokens[1]  
 prerequisites = tokens[2..end]  
  
 // Validate prerequisites  
 FOR each prereq in prerequisites  
 // (validation step deferred until after full file is read)  
 ADD prereq to temporary prereq list  
  
 CREATE Course object with:  
 number = courseNumber  
 title = courseTitle  
 prereqs = prerequisites  
  
 APPEND Course object to courses Vector  
  
CLOSE file  
  
// Validate prerequisite existence  
FOR each course in courses  
 FOR each prereq in course.prereqs  
 IF prereq not found as a course.number in courses  
 PRINT "Error: prerequisite " + prereq + " not defined in file"

## Data Structure

STRUCT Course  
 String number  
 String title  
 List<String> prereqs  
END STRUCT  
  
Vector<Course> courses

## Search and Print Course Information

FUNCTION searchCourse(Vector<Course> courses, String courseNumber)  
 FOR each course in courses  
 IF course.number == courseNumber  
 PRINT course.number + ", " + course.title  
 IF course.prereqs is empty  
 PRINT "No prerequisites"  
 ELSE  
 PRINT "Prerequisites: "  
 FOR each prereq in course.prereqs  
 PRINT prereq  
 RETURN  
 PRINT "Course " + courseNumber + " not found"  
END FUNCTION

## Example Flow

MAIN  
 loadCourses("courses.txt")  
 PROMPT user for courseNumber  
 CALL searchCourse(courses, courseNumber)  
END MAIN