**Opening and Validating File**

Function loadCoursesFromFile(filename):

Open the file with the given filename

If file fails to open:

Output "Error: Could not open file"

Return

For each line in the file:

Split the line by commas into a list called tokens

If tokens.size < 2:

Output "Error: Malformed line - less than 2 items"

Continue to next line

courseNumber = tokens[0]

courseTitle = tokens[1]

prerequisites = tokens[2 to end]

Add courseNumber to a list called allCourseNumbers

Store full line (courseNumber, title, prereqs) in a temporary list

**Validating Prerequisites**

For each course in the temporary list:

For each prerequisite in course.prerequisites:

If prerequisite not in allCourseNumbers:

Output "Error: Prerequisite [prerequisite] not found in course list"

**Creating Course Objects and Storing in Hash Table**

For each course in the temporary list:

Create a Course object:

course.courseNumber = tokens[0]

course.title = tokens[1]

course.prerequisites = tokens[2 to end]

Insert course into the hash table using courseNumber as key

**Pseudocode for Displaying All Courses**

Function printAllCourses(hashTable):

For each key in hashTable:

Get the Course object

Print course.courseNumber + ": " + course.title

If prerequisites list is not empty:

Print "Prerequisites: " + join(prerequisites, ", ")

**Pseudocode for Searching a Course**

Function searchCourse(hashTable, courseNumber):

course = hashTable.search(courseNumber)

If course is not found:

Output "Course not found"

Else:

Output course.courseNumber + ": " + course.title

If course has prerequisites:

Output "Prerequisites:"

For each prereq in course.prerequisites:

Print " - " + prereq