**Open the file, read the data, parse each line and check for file format errors.**

Open file “courses.txt” for reading.

If file cannot be opened.

Print “Error. Cannot open file.”

Exit.

For each line in the files:

Split the line by commas into tokens.

If the number of tokens is less than 2:

Print “Error. Invalid line format.

Continue to the next line

courseNumber = token[0]

courseTitle = token[1]

prerequisite = token [2:] (this could be blank if there are none)

For each prerequisite in prerequisite.

If prerequisite does not exist in the file.

Print “Error. Prerequisite course is not found.”

Continue to the next line.

**Creating course objects and storing them on a hash table.**

Define struct Course.

Attributes.

String courseNumber;

String courseTitle;

List<string> prerequisites;

Initialize has table ‘courseTable’

For each line in the file.

Split the line by commas into tokens

If the number of tokens is less than 2

Print “error. Invalid line format”

Continue to the next line

courseNumber = tokens[0]

courseTitle = tokens[1]

prerequisites = [2:] (this could be blank if there are none)

For each prerequisite in prerequisites.

If prerequisite does not exist in the file.

Print “Error. Prerequisite course not found.”

Continue to the next line.

Create a new Course object with courseNumber, courseTitle, and prerequisites.

Insert the Course object into courseTable using courseNumber as the key.

**Printing course information and prerequisites**

Function PrintCourseInfo(courseTable):

For each course in courseTable

Print “Course Number: “ + course.courseNumber

Print “course Title: “ = course.course.Title

If course.prerequisite is not empty

Print “Prerequisites: “ + “.join(course.prerequisites)

Else

Print “Prerequisites. None. “