

# Final Assignment 4 Design

- Nicholas Nguyen
- [CMSC204 GitHub Repository](#)

## GitHub screenshot

CMSC204 / projects / NguyenNicholas\_Assignment4 / src /

nick-nugat

finished manager student test

9948060 · 7 minutes ago

History

Name	Last commit message	Last commit date
..		
CourseDBElement.java	made course string template public	44 minutes ago
CourseDBGUI.java	got gui to work!!	18 hours ago
CourseDBManager.java	wrote very brief javadoc descriptions	18 hours ago
CourseDBManagerInterface.java	got CourseDBManagerTest to run!!	yesterday
CourseDBManagerTest.java	more progress on manager and structure	yesterday
CourseDBManager_GFA_Test.java	beginning project 4	4 days ago
CourseDBManager_STUDENT_Test.java	finished manager student test	7 minutes ago
CourseDBStructure.java	wrote very brief javadoc descriptions	18 hours ago
CourseDBStructureInterface.java	beginning project 4	4 days ago
CourseDBStructureTest.java	no change in test	19 hours ago
FXMainPane.java	got gui to work!!	18 hours ago
courses.txt	beginning project 4	4 days ago

## Learning experience

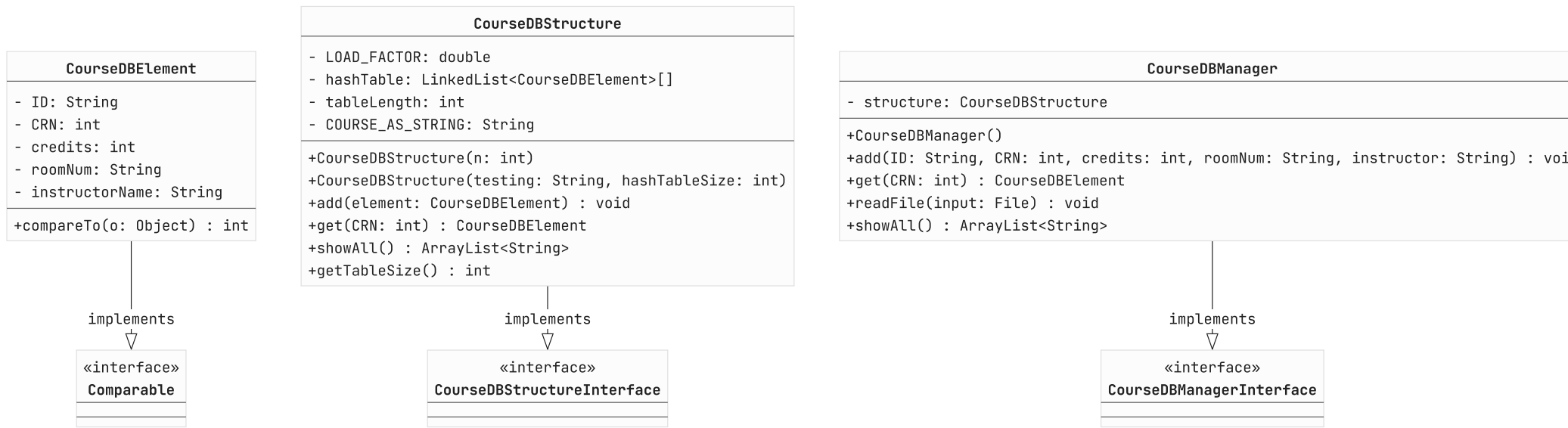
I enjoyed working on this project. I learned a good bit about concepts to use when implementing a database and especially about hashing and more about how it works.

I struggled with getting some tests to pass, as well as knowing what fields, methods, and constructors to have. Since there was no JavaDoc provided to follow like usual, I was a little thrown off, but I eventually got through it and found it to be nicer to learn by reading through the interfaces and figuring out how I may implement the methods listed in them.

I wouldn't really do anything differently next project; I feel like I did pretty well on this one.

## UML diagram

## Course Database



## Pseudocode

- **CourseDBElement**
  - blueprint for a course with attributes for the course id, crn number, room number, and instructor name
  - getters and setters for each attribute
- **CourseDBStructure**
  - represents a hash table with buckets
  - each hash code is based on the crn since unique to every course
- **CourseDBManager**
  - data manager class that allows users to read courses from a text file
  - uses **CourseDBStructure** quite a bit
    - calls some of its methods
  - can be used to enter data manually