OOP Project--Build a Grade Book

Welcome to your first Object-Oriented software engineering project! This may be a bit larger than you're used to. If it seems overwhelming, don't panic! Just remember that any large problem is just a bunch of small problems that you can solve one at a time. Also remember that it's better to work smart before you work hard (translation: PLAN OUT your approach before you begin coding!)

The Problem: After a long and fruitful career as a Software Engineer, you've decided to give back by becoming a Computer Science teacher. It isn't long on the job before you realize that the gradebook software your school uses is a total dumpster fire, because schools tend to go with the lowest bidder.

Being a strong programmer, you've decided to take matters into your own hands and build a simple python script to act as a your gradebook. Other teachers have heard, and they've all gotten pretty excited about it, and inundated you with requests.

ENABLE FLASH?
SERIOUSLY?!

Requirements:

1. Your program must contain at least two classes: `Classroom` and `Student`.
2. Your program should use a dictionary to store student objects in the Classroom's Roster.

In order to be useful, your gradebook software must be capable of doing the following things:

1) Teachers should be able to create a new classroom. This classroom object should track the following information:
    - Class Name
    - Days and Times that the class meets
    - A roster of Student Objects
    - A roster of all assignments students have been given
    - Grades for every assignment a student has completed.

2) Teachers should be able to add and remove students from the class, and should be able to add and remove assignments from the class. (Remember, sometimes students join the class late, or have an excused absence for an assignment. That means they will not have a grade for this assignment--have a plan for dealing with this!)

3) Teachers should be able to view a student's grade point average in the class easily.

Extra Challenges

Other teachers have some requests for your new gradebook software. If you finish the gradebook early, see if you can solve any of these stretch challenges!

- ***Exploratory Data analysis.*** Add functionality that allows teachers to see things such as the class average on a specific assignment, the mean/median/mode for each assignment, or for overall student grades in the class. There are a ton of cool things you could add in this respect!

- ***Data visualization.*** Add functionality that allows teachers to easily create graphs of student performance on a given assignment, or for overall student performance in the class. This could be bar graphs of student performance on an assignment, line graphs of student performance over time in the class, or a number of other visualizations. (Hint--you'll want to take a look at libraries such as **`Matplotlib`** if you plan on attempting this stretch challenge.)