Detailed Description

For the students' final project (see attached) for the course, they were allowed to work in teams of three (or less). However, the first rule of the project was that "No collaboration is allowed except between the student, their team members, and the instructor."

This matches with the course syllabus (see attached) that was shared with the students on the first day of class. The following was shared with the students: "Project(s) will be assigned during the semester. Each will be completed individually or by teams as assigned. No form of collaboration (unless specifically allowed by the instructor) is allowed on projects, except between the student and the instructor. Use of legitimate reference material (textbooks, tables, etc.) is encouraged. Use of another student's work, old or new, is not permitted."

The following was also shared in the syllabus: "As stated in the abovementioned university policy, when a faculty member has reasonable good faith that a student has committed academic misconduct, the faculty member may impose a sanction, and has sole discretion on deciding the sanction level, which may range from giving the student an "F" grade in that evaluation component to an "F" grade in the entire course.
In the project, the students were asked to develop a state feedback controller that balanced a linear inverted pendulum apparatus. This is similar to trying to balance a broomstick on your finger. There were an infinite number of designs that would meet the specifications. However, there were three identical designs that showed up in multiple project reports. I have grouped the reports with matching designs zip files. While I think that you will find other areas where unauthorized collaboration occurred, I focused on the final design and the MATLAB code that was used to generate these final designs.

In first set of designs. the final values were f=-1.8952 and K=[-1.8952 21.8813 -9.8536 4.2811]. In the second set of designs, the final values were f=-10.47 and K=[-10.47 -43.93 -16.36 8.46], In the third set of designs, the final values were f=-6.4076 and K=[-6.4076 34.4704 -13.2399 6.6656].

As I said earlier, there are an infinite set of solutions for this problem, yet these projects had identical designs. This is not surprising when you review the MATLAB code that was used to generate the designs. While I did share some code with the students, the section of code that was used for their design was supposed to be developed independently by each group. It is clear from reviewing the code, that code had been shared between the teams with identical designs.

Attached Documents
- Course Syllabus
- Assignment that was to be completed
- Individual zip files of identical completed assignments