

1. 3 Features

- a. Export Transcript To PDF
 - i. Make sure formatting of different length transcripts works
 - ii. Transcripts with longer names than usual, longer course names than usual, etc. need to have correct formatting
- b. Registration/Login
 - i. We need to make sure there cannot be multiple people with the same username
 - ii. Make sure the classes are saved for each user
- c. GPA Calculator
 - i. We will need to make sure that inputting a too large or small GPA number will be marked as invalid input. Mathematical equations should also not be allowed.
 - ii. Make sure that the GPA calculator is accurate and displays the correct average

2. Specific test cases

- a. PDF
 - i. Test with excessive amount of courses on transcript – still formatted correctly?
 - 1. Output should result in formatted page same to template
 - ii. Test with long user name/course name – still formatted correctly?
 - 1. Output should not be different than template even with long name
 - iii. Test after error in calculation. Does it deny PDF after calculation error?
 - 1. Will not output a pdf if an error occurred
- b. Registration/login
 - i. Try logging in as an invalid user, then create the user and test that the login works for that user immediately after.
 - 1. Should let the user login after they have registered
 - ii. After creating a user, make sure there are no classes assigned to the user.
 - 1. New users should be created as “empty” in course selection
 - iii. Try adding all classes to a user, and try changing the url to delete classes the user is not taking or add a class a second time. Make sure these have consistent behavior.
 - 1. Classes should only be able to be added once and user should only be able to delete classes in taken
 - iv. Log out and log back in, make sure the classes for the user are unchanged.
 - 1. Database should be updated for each user
- c. GPA calculator
 - i. Try dividing by zero or having exceptionally large grade input

1. Output 'cannot divide by zero' OR 'too large grade input' then return to get more input
 - ii. Make sure the GPA calculation is correct for the grades entered
 1. If you give certain input letter grades, output should be correct GPA average
 - iii. Make sure the GPA input doesn't accept numbers lower than 0 or higher than 4.
3. Test Data
 - a. PDF
 - i. Makes a pdf using all user data
 - b. Registration/Login
 - i. Returns user information using provided login data
 - c. GPA Calculator
 - i. Returns a calculated GPA using the grades from user's classes
4. Test Environment
 - a. Laptops of our group members until we can host on CU Server
5. Test Results
 - a. PDF
 - i. Makes a pdf with the correct information that has been calculated by our GPA calculator
 - b. Registration/Login
 - i. Returns correct username information and saves for session
 - c. GPA Calculator
 - i. Returns a correctly calculated GPA and accounts for anything above 4 and below 0 as erroneous
6. User Acceptance
 - a. CU Boulder students (only CU classes in database)