#### **System Test Plan**

##### *Testing Overview*:

The System Test Plan consists of a suite of black box tests that can be performed manually using the front-end interface for Course Manager. The tests cover each use case for Course Manager, including error cases and alternative flows. Each test cases has a test ID, a description of the steps required to perform the test, the expected results, and the actual results.

*Preconditions*

* The COps Platform and Course Manager have been installed and configured as described in the Installation Guide
* The generate\_db.py script has been run, and no other changes to the database have been made

*Running the Course Manager Application:*

To perform the tests, run the application and connect to if in Firefox as described in the User Guide.

***Test Data Summary*:**

The following users exist in the Course Manager system:

***Tester #1***

**Username:** instructor

**Name:** Instructor

**SELinux type:** instructor\_t

***Tester #2***

**Username:** student

**Name:** Student

**SELinux type:** student\_t

***Tester #3***

**Username:** coordinator

**Name:** Coordinator

**SELinux type:** coordinator\_t

##### *Acceptance Test Plan*

|  |  |  |  |
| --- | --- | --- | --- |
| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| **InstructorLogin**  **(Testing UC1)** | **Preconditions:**  User *instructor* is registered in the system.  **Steps:**   1. Enter “instructor” in the username text box. 2. Enter any text into the password text box (it is ignored currently) 3. Click the Submit button. | The Course Manager home page is successfully transitioned to after clicking Submit. | The Course Manager home page is successfully transitioned to after clicking Submit. |
| **StudentLogin**  **(Testing UC1)** | **Preconditions:**  User *student* is registered in the system  **Steps:**   1. Enter “student” in the username text box. 2. Enter any text into the password text box (it is ignored currently) 3. Click the Submit button. | The Course Manager home page is successfully transitioned to after clicking Submit. | The Course Manager home page is successfully transitioned to after clicking Submit. |
| **CoordinatorLogin**  **(Testing UC1)** | **Preconditions:**  User *coordinator* is registered in the system  **Steps:**   1. Enter “coordinator” in the username text box. 2. Enter any text into the password text box (it is ignored currently) 3. Click the Submit button. | The Course Manager home page is successfully transitioned to after clicking Submit. | The Course Manager home page is successfully transitioned to after clicking Submit. |
| **NoAccountLogin**  **(Testing UC1)** | **Preconditions:**  User *unregistered* is not registered in the system.  **Steps:**   1. Enter “unregistered” in the username text box 2. Enter any text into the password text box (it is ignored currently) 3. Click the Submit button. | The user is not allowed to login and the Course Manager home page is not transitioned to. | Response:  ERROR 400  BAD REQUEST  Given credentials are not valid |
| **ViewAccountDetailsInstructor**  **(Testing UC2)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  Currently on the Home Page of Course Manager.  **Steps:**   1. Select the “Account Details” options in the list of options on the Home Page. | The following information is displayed:  Id:  (given id)  Username:  instructor  Name:  Instructor | The following information is displayed:  Id:  1  Username:  instructor  Name:  Instructor |
| **ViewAccountDetailsStudent**  **(Testing UC2)** | **Preconditions:**  The ***StudentLogin*** test has passed.  Currently on the Home Page of Course Manager.  **Steps:**   1. Select “Account Details” option in the list of options on the home page. | The following information is displayed:  ID:  (given id)  Username:  student  Name:  Student  GPA:  4.0 | The following information is displayed:  ID:  1  Username:  student  Name:  Student  GPA:  4 |
| **ViewAccountDetailsCoordinator**  **(Testing UC2)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  Currently on the Home Page of Course Manager.  **Steps:**   1. Select “Account Details” option in the list of options on the home page. | The following information is displayed:  ID:  (given id)  Username:  coordinator  name:  Coordinator | The following information is displayed:  ID:  1  Username:  coordinator  name:  Coordinator |
| **AddCourse**  **(Testing UC 3 - S1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  **Steps:**   1. Select “Add Course” option in the list of options on the home page. 2. Enter “CSC492” in name textbox 3. Enter “TH” in days textbox 4. Enter “12:50” in start time textbox 5. Enter “2:40” in end time textbox 6. Enter “instructor” in instructor textbox 7. Click the “Add” button | Course successfully added and no error returned. | Course successfully added and no error returned. |
| **AddCourseInstructor**  **(Testing UC3)** | The ***InstructorLogin*** test has passed.  **Steps:**   1. Select “Add Course” option in the list of options on the home page. 2. Enter “CSC492” in name textbox 3. Enter “TH” in days textbox 4. Enter “12:50” in start time textbox 5. Enter “2:40” in end time textbox 6. Enter “instructor” in instructor textbox 7. Click the “Add” button | Course is not added and error is returned saying user role does not have access to this function |  |
| **AddCourseStudent**  **(Testing UC3)** | The ***StudentLogin*** test has passed.  **Steps:**   1. Select “Add Course” option in the list of options on the home page. 2. Enter “CSC492” in name textbox 3. Enter “TH” in days textbox 4. Enter “12:50” in start time textbox 5. Enter “2:40” in end time textbox 6. Enter “instructor” in instructor textbox 7. Click the “Add” button | Course is not added and error is returned saying user role does not have access to this function |  |
| **DeleteCourse**  **(Testing UC 3 - S2)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select “Delete Course” option in the list of options on the home page 2. Enter “CSC492” in course name textbox 3. Click the “Delete” button | Course successfully deleted and no error returned. | Course successfully deleted and no error returned. |
| **DeleteCourseInstructor**  **(Testing UC 3)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select “Delete Course” option in the list of options on the home page 2. Enter “CSC492” in course name textbox 3. Click the “Delete” button | Course is not deleted and error is returned saying user role does not have access to this function. |  |
| **DeleteCourseStudent**  **(Testing UC 3)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select “Delete Course” option in the list of options on the home page 2. Enter “CSC492” in course name textbox 3. Click the “Delete” | Course is not deleted and error is returned saying user role does not have access to this function. |  |
| **EnrollStudent**  **(Testing UC 3 - S3)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select the “Enroll Student” option in the list of options on the home page. 2. Enter “student” in the username textbox 3. Enter “CSC492” in the course name text box 4. Click the “Enroll” button | Student successfully enrolled and no error returned. | Student successfully enrolled and no error returned. |
| **EnrollStudentInstructor**  **(Testing UC 3 - S3)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select the “Enroll Student” option in the list of options on the home page. 2. Enter “student” in the username textbox 3. Enter “CSC492” in the course name text box 4. Click the “Enroll” button | Student is not enrolled and error is returned saying user role does not have access to this function |  |
| **EnrollStudentStudent**  **(Testing UC 3 - S3)** | **Preconditions:**  The ***StudentLogin*** test has passed.  ***AddCourse*** test has passed.   1. Select the “Enroll Student” option in the list of options on the home page. 2. Enter “student” in the username textbox 3. Enter “CSC492” in the course name text box 4. Click the “Enroll” button | Student is not enrolled and error is returned saying user role does not have access to this function |  |
| **AddCourseInvalid**  **(Testing UC 3 - E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  ***AddCourse*** test has passed.  **Steps:**   1. Select “Add Course” option in the list of options on the home page. 2. Enter “CSC417” in name textbox 3. Enter “TH” in days textbox 4. Enter “12:50” in start time textbox 5. Enter “2:40” in end time textbox 6. Enter “none” in instructor textbox 7. Click the “Add” button | Course not created and error is returned | Response:  ERROR 400  BAD REQUEST  Error handling the addition of this course. |
| **EnrollStudentInvalid**  **(Testing UC 3 - E2)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  ***EnrollStudentTest*** has passed.   1. Select the “Enroll Student” option in the list of options on the home page. 2. Enter “none” in the username textbox 3. Enter “CSC492” in the course name text box 4. Click the “Enroll” button | Enrollment unsuccessful and error is returned | Response:  ERROR 400  BAD REQUEST  Error with enrolling student |
| **EnrollStudentNoDuplicate**  **(Testing UC 3 - E3)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  ***EnrollStudentTest*** has passed.  **Steps:**   1. Select the “Enroll Student” option in the list of options on the home page. 2. Enter “student” in the username textbox 3. Enter “CSC492” in the course name text box 4. Click the “Enroll” button | Enrollment is unsuccessful and error returns saying student is already enrolled | Response:  ERROR 400  BAD REQUEST  The student is already enrolled in this course |
| **AddNewUserInstructor**  **(Testing UC4-S1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***InstructorLogin*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Instructor” user type 3. Input “instructor2” into username textbox 4. Input “Instructor2” into name textbox 5. Click the “Add” button | User added successfully and no error is returned. | User added successfully and no error is returned. |
| **AddNewUserInstructorDuplicate**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***InstructorLogin*** test has passed.  The ***AddNewUserInstructor*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Instructor” user type 3. Input “instructor” into username textbox 4. Input “Instructor” into name textbox 5. Click the “Add” button | User not added and error returns saying users with same username cannot be added | Response:  ERROR 400  BAD REQUEST  Failed to add a new user. A user with this username already exists in the system. |
| **AddNewUserStudent**  **(Testing UC4-S1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***StudentLogin*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Student” user type 3. Input “student2” into username textbox 4. Input “Student2” into name textbox 5. Click the “Add” button | User successfully added and no error returned | User successfully added and no error returned |
| **AddNewUserStudentDuplicate**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***StudentLogin*** test has passed.  The ***AddNewUserStudent*** test has passed  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Student” user type 3. Input “student” into username textbox 4. Input “Student” into name textbox 5. Click the “Add” button | User is not added and error returns saying users cannot be added with same usernames | Response:  ERROR 400  Response:  ERROR 400  BAD REQUEST  Failed to add a new user. A user with this username already exists in the system. |
| **AddNewUserCoordinator**  **(Testing UC4-S1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Coordinator” user type 3. Input “coordinator2” into username textbox 4. Input “Coordinator2” into name textbox 5. Click the “Add” button | User successfully added and no error is returned. | User successfully added and no error is returned. |
| **AddNewUserCoordinatorDuplicate**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***AddNewUserCoordinator*** test has passed  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Coordinator” user type 3. Input “coordinator” into username textbox 4. Input “Coordinator” into name textbox 5. Click the “Add” button | User is not added and error is returned saying users cannot be added with duplicate usernames | Response:  ERROR 400  BAD REQUEST  Failed to add a new user. A user with this username already exists in the system. |
| **AddNewUserInstructorByInstructor**  **(Testing UC4-S1)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Instructor” user type 3. Input “instructor2” into username textbox 4. Input “Instructor2” into name textbox 5. Click the “Add” button | User is not added and error is returned saying user role does not have access to this function |  |
| **AddNewUserStudentByStuddent**  **(Testing UC4-S1)** | **Preconditions:**  The ***StudentLogin*** test has passed.  **Steps:**   1. Select the “Add User” option in the list of options on the home page 2. Select “Student” user type 3. Input “student2” into username textbox 4. Input “Student2” into name textbox 5. Click the “Add” button | User is not added and error is returned saying user role does not have access to this function |  |
| **DeleteUserInstructor**  **(Testing UC4-S2)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***InstructorLogin*** and ***AddNewUserInstructor*** tests have passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “instructor2” in the username textbox 3. Select “Instructor” 4. Click the “Delete” button | User is successfully deleted and no error is returned | User is successfully deleted and no error is returned |
| **DeleteUserInstructorStudent**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***InstructorLogin*** and ***AddNewUserInstructor*** tests have passed.  The ***DeleteUserInstructor*** test has passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “instructor” in the username textbox 3. Select “Student” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUserInstructorCoordinator**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***InstructorLogin*** and ***AddNewUserInstructor*** tests have passed.  The ***DeleteUserInstructor*** test has passed  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “instructor” in the username textbox 3. Select “Coordinator” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUser Student**  **(Testing UC4-S2)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***StudentLogin*** and ***AddNewUserStudent*** tests have passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “student2” in the username textbox 3. Select “Student” 4. Click the “Delete” button | User is deleted successfully and no error is returned. | User is deleted successfully and no error is returned. |
| **DeleteUser StudentInstructor**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***StudentLogin*** and ***AddNewUserStudent*** tests have passed.  The ***DeleteUserStudent*** test has passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “student” in the username textbox 3. Select “Instructor” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUser StudentCoordinator**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***StudentLogin*** and ***AddNewUserStudent*** tests have passed.  The ***DeleteUserStudent*** test has passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “student” in the username textbox 3. Select “Coordinator” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUserCoordinator**  **(Testing UC4-S2)** | **Preconditions:**  The ***CoordinatorLogin*** and ***AddNewUserCoordinator*** tests have passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “coordinator2” in the username textbox 3. Select “Coordinator” 4. Click the “Delete” button | The user is successfully deleted and no error is returned. | The user is successfully deleted and no error is returned. |
| **DeleteUserCoordinatorInstructor**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** and ***AddNewUserCoordinator*** tests have passed.  The ***DeleteUserCoordinator*** test has passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “coordinator” in the username textbox 3. Select “Instructor” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUserCoordinatorStudent**  **(Testing UC4-E1)** | **Preconditions:**  The ***CoordinatorLogin*** and ***AddNewUserCoordinator*** tests have passed.  The ***DeleteUserCoordinator*** test has passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “coordinator” in the username textbox 3. Select “Student” 4. Click the “Delete” button | User is not deleted and error is returned | Response:  ERROR 400  BAD REQUEST  Error with deleting user |
| **DeleteUserInstructorByInstructor**  **(Testing UC4-S2)** | **Preconditions:**  The ***InstructorLogin*** and ***AddNewUserInstructor*** tests have passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “instructor2” in the username textbox 3. Select “Instructor” 4. Click the “Delete” button | User is not deleted and error is returned saying user role does not have access to this functionality | Response:  ERROR 401  UNAUTHORIZED  Access Denied. |
| **DeleteUserStudentByStudent**  **(Testing UC4-S2)** | **Preconditions:**  The ***StudentLogin*** and ***AddNewUserStudent*** tests have passed.  **Steps:**   1. Select the “Delete User” option in the list of options on the home page 2. Input “student2” in the username textbox 3. Select “Student” 4. Click the “Delete” button | User is not deleted and error is returned saying user role does not have access to this functionality | Response:  ERROR 401  UNAUTHORIZED  Access Denied. |
| **ModifyGradeInstructor**  **(Testing UC5-S1)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  The ***EnrollStudent*** test has passed.  **Steps:**   1. Select the “Modify Grade” option in the list of options on the home page 2. Input “student” in the username textbox 3. Input “CSC492” in course name textbox 4. Input “3.0” in grade textbox 5. Click the “Submit” button | Student’s grade is successfully changed and no error is returned | Student’s grade is successfully changed and no error is returned |
| **ModifyGradeCoordinator**  **(Testing UC5-S1)** | **Preconditions:**  The ***CoordinatorLogin*** test has passed.  The ***EnrollStudent*** test has passed.  **Steps:**   1. Select the “Modify Grade” option in the list of options on the home page 2. Input “student” in the username textbox 3. Input “CSC492” in course name textbox 4. Input “2.0” in grade textbox 5. Click the “Submit” button | Student’s grade is successfully changed and no error is returned | Student’s grade is successfully changed and no error is returned |
| **ModifyGradeStudent**  **(Testing UC5-S1)** | **Preconditions:**  The ***StudentLogin*** test has passed.  The ***EnrollStudent*** test has passed.  **Steps:**   1. Select the “Modify Grade” option in the list of options on the home page 2. Input “student” in the username textbox 3. Input “CSC492” in course name textbox 4. Input “3.0” in grade textbox 5. Click the “Submit” button | The grade is not modified and an error is returned saying user role does not have access to this function | Response:  ERROR 401  UNAUTHORIZED  Access Denied. |
| **ModifyGradeNotEnrolled**  **(Testing UC5-E1)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  The ***EnrollStudent*** test has passed.  The ***AddUserStudent*** test has passed.  **Steps:**   1. Select the “Modify Grade” option in the list of options on the home page 2. Input “student2” in the username textbox 3. Input “CSC492” in course name textbox 4. Input “3.0” in grade textbox 5. Click the “Submit” button | Student grade is not modified and error is returned | Response:  ERROR 400  BAD REQUEST  Error with modifying student's grade |
| **ViewStudentSchedule**  **(Testing UC6-S1)** | **Preconditions:**  The ***StudentLogin*** test has passed.  The ***EnrollStudent*** test has passed.  The ***ModifyGrade*** test has passed.  **Steps:**   1. Select the “Student Schedule” option in the list of options on the home page | User is taken to the view schedule page, which displays the following info:  CSC316, MW, 12:30, 2:15, Instructor, 4  CSC492, TH, 12:50, 2:40, Instructor, 3 | User is taken to the view schedule page, which displays the following info:  CSC316, MW, 12:30, 2:15, Instructor, 4  CSC492, TH, 12:50, 2:40, Instructor, 3 |
| **ViewInstructorSchedule**  **(Testing UC6-S1)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  The ***EnrollStudent*** test has passed.  **Steps:**   1. Select the “Instructor Schedule” option in the list of options on the home page | User is taken to the view schedule page, which displays the following info:  CSC316, MW, 12:30, 2:15  CSC492, TH, 12:50, 2:40 | User is taken to the view schedule page, which displays the following info:  CSC316, MW, 12:30, 2:15  CSC492, TH, 12:50, 2:40 |
| **ViewScheduleRoster**  **(Testing UC6-S3)** | **Preconditions:**  The ***InstructorLogin*** test has passed.  The ***EnrollStudent*** test has passed.  The ***ViewInstructorSchedule*** test has passed.  **Steps:**   1. Select the “Instructor Schedule” option in the list of options on the home page 2. Click “Show students” button next to “CSC492” course | User is shown list of students:  Students - CSC492  Student | User is shown list of students:  Students - CSC492  Student |