# Lab 05: Black Box Test Plan

## Test Overview

To run the tests:

1. Right click on PackSchedulerGUI class in the Package Explorer.
2. Select Run As > Java Application

All tests files should be located in the test-files/ folder.

The project should have a registrar.properties file that contain values for the following properties:

first=Ethan

last=Mancini

id=epmancin

email=epmancin@ncsu.edu

pw=password

The values should be substituted in the tests below as appropriate for the local copy of the registrar.properties file.

If you run all tests independently, you can close the GUI between each test. However, the tests are structured so that they may be run in order without shutting down the GUI.

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| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| T1: Invalid Login | Preconditions: PackSchedulerGUI has loaded  User ID: **lberg**  Password: **pw**  Click **Login**  Click **OK**  Click **Clear** | Pop up with message “User doesn’t exist.”  User ID and password text fields are cleared. | When the specified username and password are entered into their respective text boxes and the login button is clicked, a pop up message appears that says “User doesn’t exist.” When the OK button is clicked, the window closes and when the clear button is clicked, the two text boxes are emptied. |
| T2: Registrar Login | Preconditions: PackSchedulerGUI has loaded  User ID: **registrar.properties.id**  Password: **registrar.properties.pw**  Click **Login** | View switches to Registrar panel with Student Directory functionality displayed | When the username and password stored in the registrar.properties file are entered and the login button is clicked, the GUI changes to the Registrar panel and displays Student Directory functionality. |
| T3: Load Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2)  Click **Load Student Directory**  Select **test-files/student\_records.txt**  Click **Select** | 10 students are listed in alphabetical order by last name. The list starts with Demetrius Austin and ends with Griffith Stone. | After successfully completing T2, the Load Student Directory button is clicked. In the file selector window, the file student\_records.txt in the test-files directory is selected and the select button is clicked. The user is then returned to the Registrar panel and the Student Directory list now displays 10 students, starting with Demetrius Austin and ending with Griffith Stone. |
| T4: Add Invalid Student - no first name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid first name | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the first name text box which is left blank. The Add Student button is clicked and an error message pops up which says, “Invalid first name.” |
| T5: Add Invalid Student - no last name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid last name | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the last name text box which is left blank. The Add Student button is clicked and an error message pops up which says, “Invalid last name.” |
| T6: Add Invalid Student - no id | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid id | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the id text box which is left blank. The Add Student button is clicked and an error message pops up which says, “Invalid id.” |
| T7: Add Invalid Student - no email | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid email | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the email text box which is left blank. The Add Student button is clicked and an error message pops up which says, “Invalid email.” |
| T8: Add Invalid Student - invalid email | PPreconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkinsncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid email | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the email text box which is missing an @ symbol. The Add Student button is clicked and an error message pops up which says, “Invalid email.” |
| T9: Add Invalid Student - passwords don’t match | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw1** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Passwords do not match | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the fact that the two passwords do not match. The Add Student button is clicked and an error message pops up which says, “Passwords do not match.” |
| T10: Add Invalid Student - zero max credits | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **0**   Click **Add Student**  Click **OK** | Error Message: Invalid max credits | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the max credits text box which has a 0 entered in it. The Add Student button is clicked and an error message pops up which says, “Invalid max credits.” |
| T11: Add Invalid Student - 11 max credits | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **19**   Click **Add Student**  Click **OK** | Error Message: Invalid max credits | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid aside from the one in the max credits text box which has a 19 entered in it. The Add Student button is clicked and an error message pops up which says, “Invalid max credits.” |
| T12: Add Student - end | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Patience Wilkins is added to the Student Directory and is the last student in the list. | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid and the Add Student button is clicked. Patience Wilkins is added to Student Directory as the last student in the list and the text boxes are cleared. |
| T13: Add Student - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Rylee** * Last Name: **Puckett** * ID: **rpuckett** * Email: **rpuckett@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Rylee Puckett is added to the Student Directory between Dylan Nolan and Cassandra Schwartz | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid and the Add Student button is clicked. Rylee Puckett is added to Student Directory list after Dylan Nolan and before Cassandra Schwartz. The text boxes are cleared. |
| T14: Add Student - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Melvin** * Last Name: **Acevedo** * ID: **macevedo** * Email: **macevedo@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Melvin Acevedo is added to the Student Directory and is the first student in the list. | After successfully completing T2 and T3, a new student’s information is entered into the Student Information section of the GUI. All text box entries are valid and the Add Student button is clicked. Melvin Acevedo is added to Student Directory as the first student in the list and the text boxes are cleared. |
| T15: Remove Student - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Student** | Error Message: No student selected | After T2 has been successfully completed, and given that no students are selected, the Remove Student button is clicked. An error message appears that says, “No student selected.” |
| T16: Remove Student - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Select **Shannon Hansen**  Click **Remove student** | Shannon Hansen is removed. Athea Hicks follows Emerald Frost in the list | After T2 has been successfully completed, and given that Shannon Hansen is selected in the Student Directory list, the Remove Student button is clicked. Shannon Hansen is removed from the list and Athea Hicks now follows Emerald Frost in the list. |
| T17: Remove Student - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T14 has run.  Select **Melvin Acevedo**  Click **Remove student** | Melvin Acevedo is removed. Demetrius Austin is front of the directory | After T2 and T14 are successfully completed, Melvin Acevedo is selected and the Remove Student button is clicked. He is removed from the list and Demetrius Austin is once again listed first in the directory. |
| T18: Remove Student - back | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12 has run.  Select **Patience Wilkins**  Click **Remove student** | Patience Wilkins is removed. Griffith Stone is last in the directory | After T2 and T12 are successfully completed, Patience Wilkins is selected and the Remove Student button is clicked. She is removed from the list and Griffith Stone is once again listed last in the directory. |
| T19: Save Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **Save Student Directory**  Select **test-files** directory and name the file **t19\_student\_directory.txt**. | Contents should be (note that the password hash may be different due to encoding):  Demetrius,Austin,daustin,Curabitur.egestas.nunc@placeratorcilacus.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,18  Lane,Berg,lberg,sociis@non.org,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,14  Raymond,Brennan,rbrennan,litora.torquent@pellentesquemassalobortis.ca,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,12  Emerald,Frost,efrost,adipiscing@acipsumPhasellus.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,3  Althea,Hicks,ahicks,Phasellus.dapibus@luctusfelis.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,11  Zahir,King,zking,orci.Donec@ametmassaQuisque.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Dylan,Nolan,dnolan,placerat.Cras.dictum@dictum.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,5  Rylee,Puckett,rpuckett,rpuckett@ncsu.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Cassandra,Schwartz,cschwartz,semper@imperdietornare.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,4  Griffith,Stone,gstone,porta@magnamalesuadavel.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,17 | After T2 and T12-T18 have been successfully completed, the Save Student Directory button is clicked. The test-files directory is chosen and t19\_student\_directory.txt is entered for the file name. The file’s contents are:  Demetrius,Austin,daustin,Curabitur.egestas.nunc@placeratorcilacus.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,18  Lane,Berg,lberg,sociis@non.org,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,14  Raymond,Brennan,rbrennan,litora.torquent@pellentesquemassalobortis.ca,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,12  Emerald,Frost,efrost,adipiscing@acipsumPhasellus.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,3  Althea,Hicks,ahicks,Phasellus.dapibus@luctusfelis.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,11  Zahir,King,zking,orci.Donec@ametmassaQuisque.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Dylan,Nolan,dnolan,placerat.Cras.dictum@dictum.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,5  Rylee,Puckett,rpuckett,rpuckett@ncsu.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Cassandra,Schwartz,cschwartz,semper@imperdietornare.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,4  Griffith,Stone,gstone,porta@magnamalesuadavel.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,17 |
| T20: New Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **New Student Directory** | An empty student directory is shown. | After T2 and T12-T18 have been successfully completed, the New Student Directory button is clicked. An empty student directory is displayed. |
| T21: Add Student - first | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T20 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Patience Wilkins is added to the Student Directory and is the only student in the list. | After T2 and T12-T20 have been successfully completed, a new student’s information is entered as specified and the Add Student button is clicked. Patience Wilkins is added to the Student Directory and is the only student in the list. |
| T22: Course Catalog view | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Course Catalog** | Course Catalog functionality displayed | After T2 has been successfully completed, the Course Catalog button is clicked. Course Catalog functionality is displayed. |
| T23: Load Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2)  Click **Load Course Catalog**  Select **test-files/course\_records.txt**  Click **Select** | 8 courses are listed starting with CSC116-001 and ending with CSC230-001 | After T2 has been successfully completed and Course Catalog functionality is being displayed, the Load Course Catalog button is clicked. The course\_records.txt file in the test-files directory is selected and 8 courses are displayed in the course catalog, starting with CSC116-001 and ending with CSC230-001. |
| T24: Add Invalid Course - no name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course name | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course name which is left empty. The Add Course button is then clicked and a blank error message is displayed. |
| T25: Add Invalid Course - no title | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course title | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course title which is left empty. The Add Course button is then clicked and a blank error message is displayed. |
| T26: Add Invalid Course - no section | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course section which is left empty. The Add Course button is then clicked and a blank error message is displayed. |
| T27: Add Invalid Course - section too short | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **0011** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course section which has one too many digits. The Add Course button is then clicked and a blank error message is displayed. |
| T28: Add Invalid Course - section too long | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **01** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course section which has one too few digits. The Add Course button is then clicked and a blank error message is displayed. |
| T29: Add Invalid Course - no instructor id | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid instructor unity id | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the instructor id which is left empty. The Add Course button is then clicked and a blank error message is displayed. |
| T30: Add Invalid Course - end time after start time | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **11:30 AM** * End Time: **10:15 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course times | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the course times which are invalid because the course starts later in the day than it begins. The Add Course button is then clicked and a blank error message is displayed. |
| T31: Add Invalid Course - no meeting days | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days:   Click **Add Course**  Click **OK** | Error Message: Invalid meeting days | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid aside from the meeting days which are not selected. The Add Course button is then clicked and a blank error message is displayed. |
| T32: Add Course - end | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | CSC236-001 is added to the list at the end following CSC230-001 | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid and when the Add Course button is clicked, the new course is added to the end of the course catalog following CSC230-001. The text boxes in the Course Controls group are cleared. |
| T33: Add Course - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC113** * Course Title: **Introduction to Computer - MATLAB** * Course Section: **001** * Credits: **3** * Instructor Id: **tbdimitr** * Start Time: **3:00 PM** * End Time: **3:50 PM** * Meeting Days: **Monday & Wednesday**   Click **Add Course**  Click **OK** | CSC113-001 is added to the list at the front and is followed by CSC116-001. | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid and when the Add Course button is clicked, the new course is added to the beginning of the course catalog before CSC116-001. The text boxes in the Course Controls group are cleared. |
| T34: Add Course - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC116** * Course Title: **Introduction to Programming - Java** * Course Section: **006** * Credits: **3** * Instructor Id: **jdyoung2** * Start Time: **10:40 AM** * End Time: **12:30 PM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | CSC116-006 is added to the list between CSC116-003 and CSC216-001. | After T2 and T23 have been successfully completed, a new course’s information is entered into the Course Information text box fields. All entries are valid and when the Add Course button is clicked, the new course is added to the course catalog after CSC116-003 and before CSC216-001. The text boxes in the Course Controls group are cleared. |
| T35: Remove Course - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Course** | Error Message: No course selected | After T2 has been completed and given that no course is selected, when the Remove Course button is clicked, an error message is displayed which says, “No course selected.” |
| T36: Remove Course - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Select **CSC216-001**  Click **Remove Course** | CSC216-001 is removed. CSC116-006 is followed by CSC216-002. | After T2 and T32-T34 are successfully completed, when CSC216-001 is selected and the Remove Course button is clicked, CSC216-001 is removed from the list and CSC116-006 is now followed by CSC216-002. |
| T37: Remove Course - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T33 has run.  Select **CSC113-001**  Click **Remove Course** | CSC113-001 is removed. CSC116-001 is the first course in the catalog | After T2 and T32-T34 are successfully completed, when CSC113-001 is selected and the Remove Course button is clicked, CSC113-001 is removed from the list and CSC116-001 is now the first course in the catalog. |
| T38: Remove Course - back | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T32 has run.  Select **CSC236-001**  Click **Remove Course** | CSC236-001 is removed.  CSC230-001 is the last course in the catalog | After T2 and T32-T34 are successfully completed, when CSC236-001 is selected and the Remove Course button is clicked, CSC236-001 is removed from the list and CSC230-001 is now the last course in the catalog. |
| T39: Save Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T32-T38 have run.  Click **Save Course Catalog**  Select **test-files** directory and name the file **t39\_course\_catalog.txt**. | Contents should be:  CSC116,Intro to Programming - Java,001,3,jdyoung2,MW,910,1100  CSC116,Intro to Programming - Java,002,3,spbalik,MW,1120,1310  CSC116,Intro to Programming - Java,003,3,tbdimitr,TH,1120,1310  CSC116,Java,006,3,jdyoung2,TH,1040,1230  CSC216,Programming Concepts - Java,002,4,jtking,MW,1330,1445  CSC216,Programming Concepts - Java,601,4,jep,A  CSC226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,MWF,935,1025  CSC230,C and Software Tools,001,3,dbsturgi,MW,1145,1300 | After T2 and T32-T38 have been successfully completed, the Save Course Catalog button is clicked. The test-files directory is selected and t39\_course\_catalog.txt is entered as the file’s name. The contents of the saved file are:  CSC116,Intro to Programming - Java,001,3,jdyoung2,MW,910,1100  CSC116,Intro to Programming - Java,002,3,spbalik,MW,1120,1310  CSC116,Intro to Programming - Java,003,3,tbdimitr,TH,1120,1310  CSC116,Introduction to Programming - Java,006,3,jdyoung2,TH,1040,1230  CSC216,Programming Concepts - Java,002,4,jtking,MW,1330,1445  CSC216,Programming Concepts - Java,601,4,jep,A  CSC226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,MWF,935,1025  CSC230,C and Software Tools,001,3,dbsturgi,MW,1145,1300 |
| T40: New Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **New Course Catalog** | An empty course catalog is shown. | After T2 and T32-T39 are successfully completed, the New Course Catalog button is clicked. An empty course catalog is displayed. |
| T41: Add Course - first | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T20 has run.  Enter the following in the Course Information section:   * Course Name: **CSC216** * Course Title: **Programming Concepts - Java** * Course Section: **601** * Credits: **4** * Instructor Id: **jep** * Start Time: * End Time: * Meeting Days: **Arranged**   Click **Add Course**  Click **OK** | CSC216-601 is added to the list | After T2 and T40 are successfully completed, a new course’s information is entered in the Course Information section of the GUI. The user is unable to specify null/empty values for the course’s meeting times and therefore the course is unable to be added to the catalog when the Add Course button is clicked. |
| T42: Logout | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Logout** | User is returned to the Login view | After T2 is successfully completed, the Logout button is clicked. The user is then returned to the GUI’s login screen. |
| T42: Login Student | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T21 has run  User ID: **pwilkins**  Password: **pw**  Click: **Login** | pwilkins is logged in and is switched to the user view. All that is shown is a Logout button. | After T2 and T21 are successfully completed, the Logout button is clicked. The GUI displays the login screen and Patience Wilkins’ login credentials are entered in the username and password text boxes. When the login button is clicked, a lone Logout button is displayed in the GUI. |