# Lab 10: 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.

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. | Pop up with message “User doesn’t exist.”  User ID and password text fields are cleared. |
| T2: Registrar Login | Preconditions: PackSchedulerGUI has loaded  User ID: **registrar**  Password: **Regi5tr@r**  Click **Login** | View switches to Registrar panel with Student Directory functionality displayed | View switches to Registrar panel with Student Directory functionality displayed |
| 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. | 10 students are listed in alphabetical order by last name. The list starts with Demetrius Austin and ends 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 | Error Message: 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 | Error Message: 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 | Error Message: 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 | Error Message: 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 | Error Message: 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 | Error Message: 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 | Error Message: 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 | Error Message: 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. | Patience Wilkins is added to the Student Directory and is the last student in the list. |
| 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 | Rylee Puckett is added to the Student Directory between Dylan Nolan and Cassandra Schwartz |
| 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. | Melvin Acevedo is added to the Student Directory and is the first student in the list. |
| T15: Remove Student - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Student** | Error Message: No student selected | Error Message: 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 | Shannon Hansen is removed. Athea Hicks 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 | Melvin Acevedo is removed. Demetrius Austin is front of 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 | Patience Wilkins is removed. Griffith Stone is 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 | 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. | An empty student directory is shown. |
| 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. | 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 | Course Catalog functionality 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 | 8 courses are listed 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid name | Error Message: Invalid name |
| 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid title | Error Message: Invalid title |
| 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section | Error Message: Invalid section |
| 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section | Error Message: Invalid section |
| 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section | Error Message: Invalid section |
| 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: * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid instructor id | Error Message: Invalid instructor id |
| 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** * Enrollment Cap: **10** * Start Time: **11:30 AM** * End Time: **10:15 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid meeting times | Error Message: Invalid meeting times |
| 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** * Enrollment Cap: **10** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days:   Click **Add Course**  Click **OK** | Error Message: Invalid meeting days | Error Message: Invalid meeting days |
| 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** * Enrollment Cap: **10** * 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 | CSC236-001 is added to the list at the end following CSC230-001 |
| 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** * Enrollment Cap: **10** * 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. | CSC113-001 is added to the list at the front and is followed by CSC116-001. |
| 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** * Enrollment Cap: **10** * 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. | CSC116-006 is added to the list between CSC116-003 and CSC216-001. |
| T35: Remove Course - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Course** | Error Message: No course selected | Error Message: 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. | CSC216-001 is removed. CSC116-006 is 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 | CSC113-001 is removed. CSC116-001 is 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 | CSC236-001 is removed.  CSC230-001 is 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,jdyoung2,10,MW,910,1100  CSC116,Intro to Programming - Java,002,3,spbalik,10,MW,1120,1310  CSC116,Intro to Programming - Java,003,3,tbdimitr,10,TH,1120,1310  CSC116,Java,006,3,jdyoung2,10,TH,1040,1230  CSC216,Programming Concepts - Java,002,4,jtking,10,MW,1330,1445  CSC216,Programming Concepts - Java,601,4,jep,10,A  CSC226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,10,MWF,935,1025  CSC230,C and Software Tools,001,3,dbsturgi,10,MW,1145,1300 | Contents are:  CSC116,Intro to Programming - Java,001,3,jdyoung2,10,MW,910,1100  CSC116,Intro to Programming - Java,002,3,spbalik,10,MW,1120,1310  CSC116,Intro to Programming - Java,003,3,tbdimitr,10,TH,1120,1310  CSC116,Java,006,3,jdyoung2,10,TH,1040,1230  CSC216,Programming Concepts - Java,002,4,jtking,10,MW,1330,1445  CSC216,Programming Concepts - Java,601,4,jep,10,A  CSC226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,10,MWF,935,1025  CSC230,C and Software Tools,001,3,dbsturgi,10,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. | An empty course catalog is shown. |
| 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** * **Enrollment Cap: 10** * Start Time: * End Time: * Meeting Days: **Arranged**   Click **Add Course**  Click **OK** | CSC216-601 is added to the list | CSC216-601 is added to the list |
| T42: Logout | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Logout** | User is returned to the Login view | User is returned to the Login view |
| T43: 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. | pwilkins is logged in and is switched to the user view. All that is shown is a Logout button. |
| T44: Login Student with Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T21 has run.  Click **Load Course Catalog** Select **test-files/t43\_course\_catalog.txt**Click **Select**Click **Logout.**User ID: **pwilkins**Password: **pw**Click: **Login** | The course catalog now has 9 classes, starting with ART215 and ending with MUS120.  pwilkins is logged in and is switched to the user view. The course catalog is shown with 9 classes. | The course catalog now has 9 classes, starting with ART215 and ending with MUS120.  pwilkins is logged in and is switched to the user view. The course catalog is shown with 9 classes. |
| T45:Add course to schedule | Preconditions: PackSchedulerGUI has loaded and T44 has run.  Select **CSC116 001**  Click **Add Course** | CSC116 001's course information is seen in the course details  CSC116 is added to the schedule | CSC116 001's course information is seen in the course details  CSC116 is added to the schedule |
| T46:Add duplicate course to schedule | Preconditions: PackSchedulerGUI has loaded and T45 has run.  Select **CSC116 002**  Click **Add Course**  Click **OK** | Error Message: Course cannot be added to schedule. | Error Message: Course cannot be added to schedule. |
| T47:Add conflicting course to schedule | Preconditions: PackSchedulerGUI has loaded and T46 has run.  Select **BIO101 001**  Click **Add Course**  Click **OK** | Error Message: Course cannot be added to schedule. | Error Message: Course cannot be added to schedule. |
| T48: Remove course from schedule | Preconditions: PackSchedulerGUI has loaded and T47 has run.  Select **CSC116 001** in Student's Schedule  Click **Remove Course** | Schedule is now empty | Schedule is now empty |
| T49: Add multiple courses and set title | Preconditions: PackSchedulerGUI has loaded and T44 has run.  Select **ART215 001**  Click **Add Course**  Select **CSC114 006**  Click **Add Course**  Select **BIO101 001**  Click **Add Course**  Select **CSC116 002**  Click **Add Course**  Select **MUS120**  Click **Add Course**  In the text field next to Schedule Title, type **“Fall 2017”**  Click **Set Title** | Schedule now has 5 classes, starting with ART215 and ending with MUS120  The schedule's title is now: Fall 2017  Each class in the schedule shows 9 open seats. | Schedule now has 5 classes, starting with ART215 and ending with MUS120  The schedule's title is now: Fall 2017  Each class in the schedule shows 9 open seats. |
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| T50: Attempt to overload student’s schedule | Preconditions: PackSchedulerGUI has loaded and T49 has run.  Select **ECN101**  Click **Add Course**  Click **OK** | Error Message: Course cannot be added to schedule. | Error Message: Course cannot be added to schedule. |
| T50: reset schedule | Preconditions: PackSchedulerGUI has loaded and T49 has run.  Click **Reset Schedule** | The schedule is empty and the title is now “My Schedule” | The schedule is empty and the title is now “My Schedule” |
| T51: Test Load Faculty Record | Preconditions: PackSchedulerGUI has loaded and registrar is logged in (T2)  Click **Faculty Directory**  Click **Load Faculty Directory**  Choose test-files/faculty\_records.txt | The UI switches to an empty Faculty Directory panel.  The Faculty Directory contains 8 faculty members, starting with Ashely Witt and ending in Lacey Walls | The UI switches to an empty Faculty Directory panel.  The Faculty Directory contains 8 faculty members, starting with Ashely Witt and ending in Lacey Walls |
| Test 52: Test First Name | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name:  Last Name: **Adams**  ID: tadams  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Invalid first name | Error message: Invalid first name |
| T53: Test Last Name | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name:  ID: tadams  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Invalid last name | Error message: Invalid last name |
| T54: Test Faculty ID | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name: **Adams**  ID:  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Invalid id | Error message: Invalid id |
| T55: Test faculty email | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name:  ID: tadams  Email:  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Invalid email | Error message: Invalid email |
| T56: Test Faculty Password | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name:  ID: tadams  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Invalid password | Error message: Invalid password |
| T57: Test Faculty Password Mismatch | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name:  ID: tadams  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Error message: Passwords do not match | Error message: Passwords do not match |
| T58: Test Add Faculty | Preconditions: PackSchedulerGUI has loaded and T51 has run.  In the Faculty Controls, enter:  First Name: **Timberly**  Last Name: **Adams**  ID: tadams  Email: tadams@ncsu.edu  Password: pw  Repeat Password: pw  Max Courses: 2  Click **Add Faculty**  Click **OK** | Timberly Adams is added to the list of faculty members at the end of the list | Timberly Adams is added to the list of faculty members at the end of the list |
| T59: Remove Faculty | Preconditions: PackSchedulerGUI has loaded and T58 has run.  Select Halla Aguirre  Click **Remove Faculty**  Select Ashley Witt  Click **Remove Faculty**  Select Timberly Adams  Click **Remove Faculty** | Halla Aguirre is removed from the list  Ashley Witt is removed from the list  Timberley Adams is removed from the list. | Halla Aguirre is removed from the list  Ashley Witt is removed from the list  Timberley Adams is removed from the list. |
| T60: Save Faculty | Precondition: PackSchedulerGUI has loaded and T59 has run.  Click **Save Faculty Directory** and choose test-files/T60\_faculty\_directory.txt  Click **Save** | T60\_faculty\_directory should contain:  Ashely,Witt,awitt,mollis@Fuscealiquetmagna.net,0?R??"??u???\7X?F???9?{-O?F?ap?,2  Fiona,Meadows,fmeadow,pharetra.sed@et.org,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Brent,Brewer,bbrewer,sem.semper@orcisem.co.uk,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Halla,Aguirre,haguirr,Fusce.dolor.quam@amalesuadaid.net,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Kevyn,Patel,kpatel,risus@pellentesque.ca,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Elton,Briggs,ebriggs,arcu.ac@ipsumsodalespurus.edu,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Norman,Brady,nbrady,pede.nonummy@elitfermentum.co.uk,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Lacey,Walls,lwalls,nascetur.ridiculus.mus@fermentum.net,0?R??"??u???\7X?F???9?{-O?F?ap?,2 | T60\_faculty\_directory contains:  Ashely,Witt,awitt,mollis@Fuscealiquetmagna.net,0?R??"??u???\7X?F???9?{-O?F?ap?,2  Fiona,Meadows,fmeadow,pharetra.sed@et.org,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Brent,Brewer,bbrewer,sem.semper@orcisem.co.uk,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Halla,Aguirre,haguirr,Fusce.dolor.quam@amalesuadaid.net,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Kevyn,Patel,kpatel,risus@pellentesque.ca,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Elton,Briggs,ebriggs,arcu.ac@ipsumsodalespurus.edu,0?R??"??u???\7X?F???9?{-O?F?ap?,3  Norman,Brady,nbrady,pede.nonummy@elitfermentum.co.uk,0?R??"??u???\7X?F???9?{-O?F?ap?,1  Lacey,Walls,lwalls,nascetur.ridiculus.mus@fermentum.net,0?R??"??u???\7X?F???9?{-O?F?ap?,2 |
| T61: New Faculty Directory | Precondition: PackSchedulerGUI has loaded and T60 has run.  Click **New Faculty Directory** | All faculty members are cleared and an empty faculty directory is shown | All faculty members are cleared and an empty faculty directory is shown |
| T61: Faculty Assignment Panel | Precondition: PackSchedulerGUI has loaded and Registrar is logged in.  Click Faculty Assignment. | The Faculty Assignment panel loads and there are no elements in either the Course Catalog or Faculty Directory. | The Faculty Assignment panel loads and there are no elements in either the Course Catalog or Faculty Directory. |
| T62: Load Directories into Faculty Assignment | Precondition: T61 has run.  Click Faculty Directory Panel.  Click Load Faculty Directory.  Choose **test-files/faculty\_records.txt**  Click Course Catalog.  Click Load Course Catalog.  Choose **test-files/course\_records.txt**  Click Faculty Assignment. | The Faculty Assignment panel now has 10 courses in the course catalog and 8 instructors in the faculty directory | The Faculty Assignment panel now has 10 courses in the course catalog and 8 instructors in the faculty directory |
| T63: Assign Course to Faculty | Precondition: T62 has run.  Choose CSC116-001 from the Course Catalog.  Choose Ashley Witt from the Faculty Directory.  Click **Assign Faculty to Course.** | CSC116-001 now has “awitt" listed as the Instructor. | Error message: Course already has an instructor. |
| T64: Assign Faculty to Course with an Instructor | Precondition: T63 has run.  Choose CSC116-001 from the Course Catalog.  Choose Fiona Meadows from the Faculty Directory.  Click **Assign Faculty to Course.**  Click **OK.** | Error message: Course already has an instructor. | Error message: Course already has an instructor. |
| T65: Remove Course From Faculty | Precondition: T64 has run.  Choose CSC116-001.  Choose Fiona Meadows.  Click **Remove Faculty from Course.**  Click **OK.**  Choose CSC116-001.  Choose Ashley Witt.  Click **Remove Faculty from Course.** | Error message: Cannot remove faculty member from course.  “awitt" is removed from the course. | Error message: Cannot remove faculty member from course.  “awitt" is removed from the course. |
| T66: Reset Faculty Schedule | Precondition: T64 has run.  Click **Reset Faculty Schedule**  Choose another course in the catalog and then return to CSC116-001 | "awitt" is no longer listed as the instructor for any course. | "awitt" is no longer listed as the instructor for any course. |