Möbius MAA Placement User Guide

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Preface

Audience

The information in this guide is intended for the person(s) who, using the Möbius Placement Suite, will establish, administer, and maintain the mathematics placement testing system on your campus.

In This Guide

- Role of placement testing
- Benefits of the Möbius Placement Suite
- Möbius Placement Suite overview
- Navigating: logging in, Class Homepage, Content Manager
- Assignment Editor: setting up placement tests
- Administration: managing classes and users
- Analyzing results: cut-scores, records, gradebook
- Additional resources: question banks, help system

Conventions

This guide uses the following typographical conventions.

- **bold font** - dialog, menu, text field, key, filename
- **bold Note** - additional information relevant to the section or procedure
- *italics* - new term
- *italics* - section or Help system cross-reference

1 Placement Testing

1.1 Role of Placement Testing

Students enter college with diverse goals, backgrounds, and abilities. A mechanism is therefore needed to place these incoming students into the appropriate first mathematics course.

While there is a consensus among professional testmakers that education decisions should not be based solely on a single test score, tests typically play a dominant role in how an institution views each student's placement profile.

1.2 Benefits of the Möbius Placement Suite

The Möbius Placement Suite is a system that offers validated placement tests, as well as algorithmic versions of these tests, developed by the Mathematical Association of America (MAA) and administered within Möbius Assessment, an online testing environment.

The standard tests used in the Möbius Placement Suite were developed by panels of college and university faculty and administered to students at several institutions. The resulting data was analyzed and, if necessary, the tests were modified until a reliable set of placement tests resulted. For several decades, colleges and universities have trusted this set of tests.

While it is impossible to do the same rigorous testing with the millions of variations provided by the algorithmic tests, the algorithmic questions are based on the algorithms used to create the original parallel forms of the standard placement tests. All algorithmic questions have been reviewed and approved by the MAA.

The Möbius Assessment infrastructure permits flexible scheduling, immediate grading, and rapid generation of reports. In addition, you are able to customize tests for your institution by using different assignment types to satisfy your testing needs.

1.3 Möbius Placement Subjects

The available placement test subjects areas are as follows.

Placement Test	Number of Questions	Recommended Time Limit
Arithmetic and Skills	32	40 minutes
Basic Algebra	25	30 minutes
Algebra	32	45 minutes
Advanced Algebra	25	30 minutes
Trigonometry and Elementary Functions	30	45 minutes
Calculus Readiness	25	30 minutes
Calculus Concepts Readiness	25	30 minutes
Algebra and Precalculus Concepts Readiness	25	30 minutes
Calculator-Based Placement Test	**Number of Questions**	**Recommended Time Limit**
Arithmetic and Skills	32	40 minutes
Basic Algebra	25	35 minutes
Algebra	32	45 minutes
Calculus Readiness	25	40 minutes
Algorithmic Placement Test	**Number of Questions**	**Recommended Time Limit**
Arithmetic and Skills	32	40 minutes
Basic Algebra	25	30 minutes
Algebra	32	45 minutes

Algorithmic Placement Test	Number of Questions	Recommended Time Limit
Advanced Algebra	25	30 minutes
Trigonometry and Elementary Functions	30	45 minutes
Calculus Readiness	25	30 minutes

A scientific calculator will be required for some questions on the Calculator-Based tests.

Each test consists of 25 to 32 multiple-choice questions that can be administered in 45 minutes or less. Standard mathematical notation is used, so questions appear just as they would in a textbook.

For many non-algorithmic tests, multiple forms of a test are provided to allow for flexibility in test delivery. The content areas of the parallel forms are the same, but the questions may differ slightly.

For algorithmic tests, the numbers in each question are randomly generated. This reduces the potential for cheating and allows for even greater flexibility in test delivery.

Figure 1.1: Example Question

1.4 High School Prognostic Tests

The high school prognostic test subset of the Möbius Placement Suite consists of 13 distinct tests. These tests cover elementary, intermediate, and advanced high school mathematics, and some of the tests are designed for use with calculators or graphing calculators (see table below). There are two or three parallel forms of each of the five tests. Schools have the ability to choose not only which subject area they want to cover, but also which version of the test they want to deliver.

The high school prognostic tests are designed to test high school sophomores, juniors, and seniors, to give projected placements in college mathematics courses. They were developed in conjunction with a number of state-wide initiatives to improve student preparedness for college or university mathematics courses. If students going into college or university are better prepared, there will be less need for remediation at college, and the overall time required for matriculation will be reduced.

These tests are usually given as part of an intervention program by universities and colleges to high school students who may be interested in attending their school in the future. The tests are designed to give the students projected placement in college mathematics courses. As such, they are often referred to as "early mathematics placement tests".

The tests are directed at improving student preparation for college work and steering students to the proper preparatory high school courses. One of the other goals of an early mathematics placement test program is to encourage students to maintain their math skills and to continue taking math classes—at least one per year in high school.

The benefit of taking these tests is that students in high school receive early feedback on how prepared they are for college mathematics, with enough time to correct any deficiencies or to focus on areas for additional growth. By discussing their results with their math teachers and guidance counselors, students can plan their remaining high school mathematics courses appropriately.

Each of the 13 tests consists of 25 to 32 multiple-choice questions that can be administered in 45 minutes or less. The following table specifies the number of questions along with the recommended time limit from the MAA.

High School Prognostic Test	Number of Questions	Recommended Time Limit
Elementary High School Mathematics	32	45 minutes
Intermediate High School Mathematics	32	45 minutes
Calculator-Based Elementary High School Mathematics	32	40 minutes
Graphing Calculator-Based Intermediate High School Mathematics	25	45 minutes
Graphing Calculator-Based Advanced High School Mathematics	25	45 minutes

2 Using the Möbius Placement Suite

2.1 System Overview

Four types of users interact with the Möbius Placement Suite.

- *System Administrators* create classes and upload users.
- *Placement Testing Administrators* upload and register users, install and set up placement tests, and review results in the *Gradebook*
- *Students* complete placement tests.
- (Optional) *Proctors* validate student identity and grant placement test access.

Placement Testing Administrator

As the Placement Testing Administrator, you control the rules and policies for placement tests. You control availability and due dates, and set grading parameters. Grades are automatically recorded in the system **Gradebook**. These grades can be downloaded as a comma-delimited file and incorporated into other systems for use in determining student placement.

After you log in to the Möbius Assessment system, you can access your Möbius Assessment class or classes. This is where all system interactions occur for you, your students, and the proctors in your class. Your class contains question banks, assignments, resource files, and the class gradebook.

The role of Placement Testing Administrator is similar to the role of Instructor in Möbius Assessment, and Placement Testing Administrators will typically have instructor-level access to the Möbius Assessment system.

Students

Students must follow the guidelines set by your institution for scheduling and taking their test. Once logged in, students may register in your class (if permitted), select placement tests as you make them available, and review the results of tests they have completed (if you make them available).

Note: As a placement testing administrator, you can lock access to student registration and upload a class roster instead. For details, see *Administration (page 14)*.

Proctors

Class Proctors can log in to validate a student's identity prior to administering a proctored test.

2.2 Logging In

Log in to the system using the username and password your system administrator has provided. The main system page is called the **System Homepage**. The **System Homepage** provides access to the classes you are teaching, and those in which you are a student or a proctor.

If the system administrator has created a class for you, your class will be listed under the **Classes where my role is Instructor** section on your system homepage.

If your system administrator has not created a class for you, you can create a class. See below for details.

2.3 Creating a Class

Both you and your system administrator have sufficient privileges to create new, empty placement classes or ones based on shared material.

Typically, you will want to create a unique placement class for each stream of placement testing required by your institution. The class is the basic structure for organizing which tests are administered to a specific group of students.

To create a new class:

1. Start at the **System Homepage**.

2. From the **Class Manager** menu, select **Add Class**.

3. Complete the class registration form and click **Submit**.

   Fields in the class registration from:

   - **Instructor** — Your name will be automatically entered in this field. (If needed, click **Change Instructor** and select a new instructor from the system users.)

   - **Instructor Email** — Your email will be automatically entered in this field.

   - **Course ID** — (optional) A unique string of letters and/or numbers as the Course ID, for example, stats101.

   - **Class Name** — The displayed name for the class. The class name appears on the Class Homepage and in other administrator lists. The maximum number of characters allowed is 255. The system ensures that class names are unique. If you or an instructor select a name that exists, the system requests that you select another name.

   - **Class Short Name** — (optional) A shortened name for the class, which is displayed only when space is limited.

   - **Registration Locked** — Open registration allows students in the system to enroll themselves in your class. The default setting is locked, therefore students will not be able to enroll themselves in your class.

   - **Allow Students to drop class** — Allow students to have the permssion to withdraw from a class using a Drop Class button displayed on the class homepage.

   - **Allow Anonymous Access** — Allow Anonymous Access is only visible if it is enabled by the administrator. When enabled, this feature allows anonymous users to take a test without logging into Möbius Assessment by giving them access to the system homepage. This page will only show classes that are also set to allow anonymous access. Any practice type assignments will automatically be available for anonymous users.

   - **Featured Class** — Marking the class as a Featured Class allows the creation of child classes based on this class. This allows you to share the assignments, quizzes, tests, etc. with other classes by adding an entry to the Inherited Content From drop-down menu.

   - **Inherit Content From** — You can inherit content from a featured class. This gives you access to already created assignments, quizzes, tests, etc.

   - **Default Role in Class** — Select a default role from the drop-down menu.

   - **Sort Weight** — This options controls where the course falls when it is shown in a list of courses. A larger number corresponds to higher placement in the list of courses.

4. Your class is added to the **System Homepage**, next to the list of **Classes where my role is Instructor**.

5. To access your class, click the link to your newly created class to bring you to the **Class Homepage**.

To create a copy of a shared class:

1. From the Class Homepage of the class you want to share, select the **Actions** menu, and select **Add Child Class**.

2. By default you are listed as the instructor for the new class. Click the **Change Instructor** link to select a different instructor.

3. Enter details of the instructor you are searching for and click **Search**. Alternatively, you can search for the instructor in the list of registered users.

4. Select the instructor and click **Update**. The name of the instructor should be displayed.

5. Complete the class registration form and click **Submit**.

2.4 The Class Homepage

You or your system administrator creates a unique (new empty) class or one based on shared material. From the **System Homepage**, click the link to your class to open the **Class Homepage**. The **Class Homepage** displays the class and placement test administrator names, and the list of placement tests that you have posted.

The **Assignment List** indicates the name and type of placement test, associated points, availability (that is, scheduled dates and times) and specific policies in each placement test, for example, time limit. Click the listed placement test name to launch the test.

Placement test administrators access the **Class Homepage** to:

- Create, publish, and manage placement tests
- Manage student interactions
- Manage proctors and authorization of assignments through Proctor Tools
- Access a gradebook that records student work and placement test results

Figure 2.1: Class Homepage

2.5 Navigating

To navigate in the Möbius Assessment system, use the onscreen menus and buttons. It is recommended that you do not use the back and forward browser buttons.

Accessing the Help System

Click the **Help** link from any page to access the online help. Students can get help by clicking the same link in a placement test.

2.6 Content Repository: Setting up Placement Tests

Placement tests are classified in the Möbius Assessment system as assignments, and are managed using the **Content Repository**.

From the **Class Homepage**, select the **Content Repository** tab.

Under **Current Class**, select **Assignments** to see a list of placement tests. The following actions are available:

• Reorganize the order of displayed placement tests using the drop-down buttons.

• Edit a placement test.
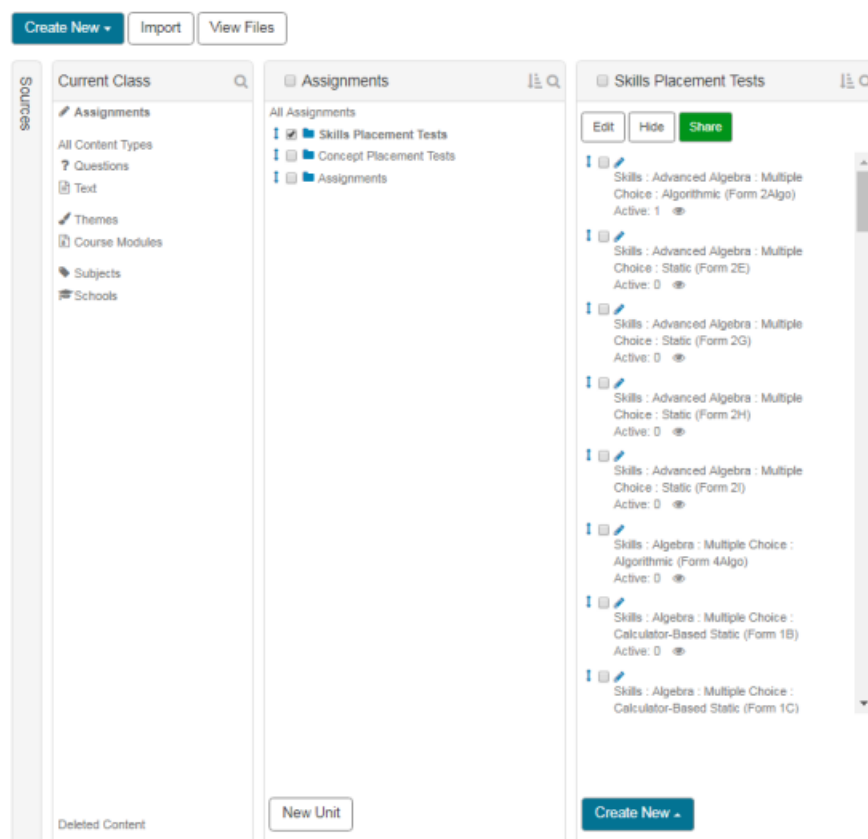
• Control policies for a placement test.

Figure 2.2: Content Repository

To activate the available options, click the name of a placement test. The option buttons are displayed.

Option on an Assignment	Purpose
edit	Edit placement test.
clone	Copy placement test.
delete	Delete placement test. (This option is not available for inherited placement tests.)
hide/show	Hide/show placement test from student view on the **Class Homepage**.
print	Print placement test. Clicking the link displays a print preview of the placement test. You then have the option to print the placement test or click **Back** to return to the **Assignment Editor**.
force grade	Force grade a locked assignment.

Assignment Locking

When a placement test is opened for edit, the system checks and warns the placement testing administrator whether the placement test has associated student records in the **Gradebook** or is currently in use by a student.

Note: The number of students currently using the placement test is displayed in the list of assignments in the **Content Repository** under the field **Active**.

- If the placement test is currently in use, the questions in the placement test are locked so that a placement testing administrator cannot edit them. You can still edit some of the policies (for example, the time limit) associated with the placement test.

- If a placement test is locked because of an abandoned test, you can force grade the open test. For details see the Note in the section *Performing Gradebook Searches (page 18)*.

- If a placement testing administrator is editing the placement test, the placement test is locked for editing so that new active tests cannot be started during the editing process. Students who try to start the placement test while it is locked are notified with a warning message.

Assignment Visibility

By default, placement tests are not displayed to students. You can select which tests to display by using either of the following methods.

- In the **Content Repository**, click the **show** option available for the placement test.
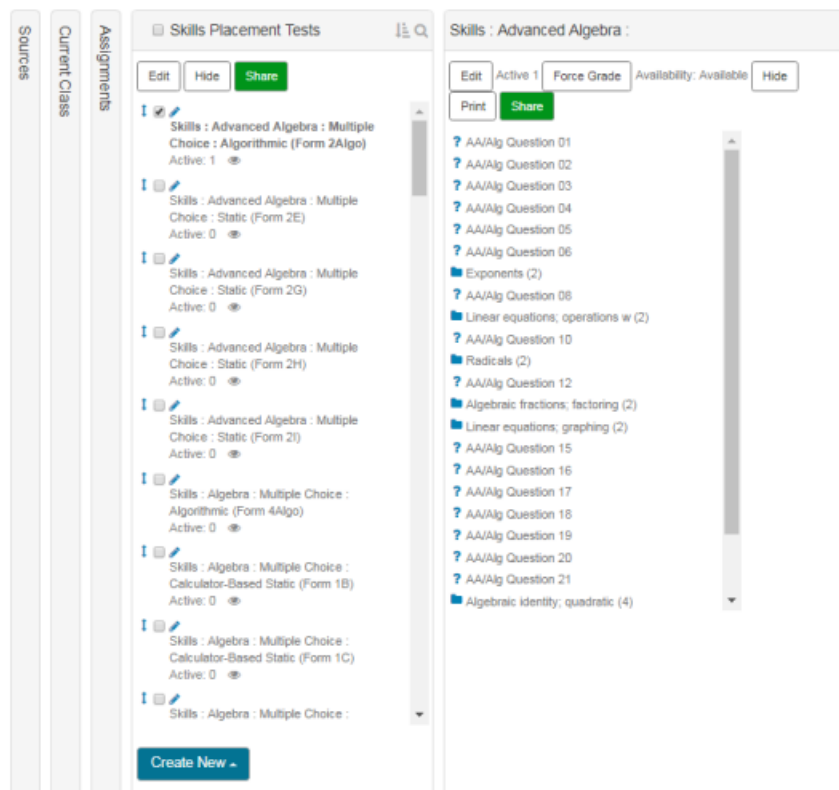
Figure 2.3: Assignment Menu

- Click the **edit** option in the menu for a placement test. In the **Set Policies** tab of the **Assignment Editor** window, check the **Visible (Master)** check box to include the placement test in the list of placement tests displayed to students on your **Class Homepage**.

Figure 2.4: Assignment Visibility

Assignment Types

The **Assignment Editor** allows you to set up policies for your placement tests. In the **Set Policies** tab of the **Assignment Editor** window, you can choose which assignment type to use for your placement test. Assignment types are described below.

Figure 2.5: Setting the Assignment Type

Homework or Quiz

Students are presented with an assignment consisting of any number of placement testing administrator-selected questions. Questions are delivered either in a specified or random sequence. Student responses during sessions are recorded (but not graded) after every question, so assignment sessions can be interrupted and returned to upon next login. By default, homework assignments can be attempted multiple times for credit. To limit the number of attempts a student can make on a particular assignment, see *Setting the Maximum Number of Attempts (page 12)*. Results for every attempt at a Homework assignment are recorded in the **Gradebook** for the class.

Practice

Anonymous Practice assignments are similar to Homework assignments. Any number of questions can be included, and the assignment is delivered in a specified or random sequence. Graded assignment reports are produced upon conclusion of the assignment, but results are not recorded in the **Gradebook**. Students can view their results at the end of the session. Results can be printed, but are only available for as long as a student displays them. No permanent record is maintained.

Proctored Exams

For all proctored placement tests, a proctor must give authorization before students can submit their tests for grading. You can require proctor authorization to validate student identity and grant placement test access at the start of a test. You can also require that students use the Proctored Browser for a Proctored Exam assignment type. This full-screen mode blocks a student from accessing external web sites or other programs on their computer while taking the assignment.

Students must be registered in your class. In addition to proctor authorization, students will be required to provide their student login and password to access placement tests.

Proctors can give authorization directly, at the student's computer, or remotely through the **Proctor Tools** menu. In both cases, the proctor must sign in by giving a login name and password. To give authorization remotely, the proctor must log in, select the class, and from the **Class Homepage** select **Proctor Tools**.

There are two types of proctors: **Global** and **Local**.

- Global proctors are defined by the system administrator and can give authorization for any class.
- Local proctors are defined by the placement testing administrator and can give authorization only for a particular class.

To set up a local proctor, you must use the **Class User Manager**. For details, refer to the *Adding a Proctor* section in the Möbius Assessment help system.

Assignment Properties

In **Assignment Properties**, you can set the following properties for each placement test.

- Maximum number of times a placement test may be taken
- Passing score
- Time limit
- Number of questions on a page
- Scheduling
- Visibility

Figure 2.6: Assignment Properties

Setting the Maximum Number of Attempts

You can set the maximum number of times a student can take a placement test. If the student attempts more than the maximum number, a message is displayed indicating the restriction. If the placement test is a Proctored Exam, the student can click the **Exception** button displayed in the restriction message screen. A proctor can then provide authorization if appropriate.

Setting a Passing Score

You can set a passing score for the placement test. If you set a score, the system assesses each placement test attempt as either Pass or Fail, and records this information in the **Gradebook** automatically. The field shows the total available score for the placement test (for example, out of 10), which varies according to the composition of your placement test. You can customize the pass/fail feedback by clicking the **Edit Feedback Messages** link. You can also specify under which circumstance the pass/fail feedback should be displayed: always, never, or if the final grade is shown.

Setting a Time Limit

You can set a time limit for the test. If you set a limit, the program shows the student the time remaining during the course of the test. If the time limit expires during the test, the system informs the student, and does not allow the student to enter responses to any more questions.

Note: The timer does not stop until the student runs out of time or clicks Grade. The timer will continue to run even if the student clicks **Quit & Save**.

Setting Assignment Requirements: Limiting Student Access to Placement Tests

You can restrict access to a placement test so that only students meeting certain criteria can take the test. This is useful when you want to ensure minimum competencies in prerequisite topics. For example, you can limit access to students who have already passed an earlier placement test. You can also create assignment requirements that refer to the current placement test, even if you are working with a new test that has not yet been saved. The placement test on which you are working is listed along with all other available assignments in the **Criterion** specification box.

To restrict placement test access:

1. From the **Assignment Editor** screen in the **Set Policies** tab, click **Advanced Polices** under the **General Properties** heading. The **Set Policies — Advanced** screen with a **Requirements** field is displayed.

2. To set criteria, click **Design**. A **Criterion 1** rule-based field opens. The program adds input fields for the first criterion, as shown:

Figure 2.7: Defining a New Criterion

Criterion Options

*   The first drop-down list gives a choice between **has** and **has not**.

*   The drop-down list in the middle lists a range of states and actions.

*   The drop-down list on the right lists all of the assignments for the class, including the assignment whose restrictions you are defining.

*   **Adding an OR Criterion**: Click the **Add alternative criterion** button immediately below the list of assignments. Möbius Assessment adds the list fields for another criterion.

*   **Adding an AND Criterion**: Click the **Add additional criterion** button at the bottom right of the form, below the frame that encloses the criterion fields. Möbius Assessment adds another criterion group, in a separate frame.

*   **Deleting a Criterion**: To delete an OR criterion, click the **Remove criterion** button inside the frame for that criterion group. The program deletes the last criterion from the group. You may have to change the settings for the remaining criteria in the group to set the requirements that you want. To delete an AND criterion group, click the **Remove criterion** button at the bottom of the form, below the last criterion group. Möbius Assessment deletes the last group. You may have to change the settings for the remaining groups to set the requirements that you want.

*   **Save Changes to Criteria**: To close the **Set Polices — Advanced** page and save changes made to the criteria, click **Back**.

2.7 Scheduling Placement Tests

Using the calendar function in the **Scheduling** group box of the **Set Policies** tab of the **Assignment Editor**, you can set **Start** and **End** times for each placement test. These times govern the availability of the placement test to students accessing your Class Homepage. Scheduled times refer to your server clock and system's time zone set by your system administrator.

Figure 2.8: Scheduling Start and End Times

Before and after the indicated availability window, the placement test is still displayed in the placement test list viewable by students on your Class Homepage, but it cannot be selected. Note that unavailable placement tests still appear in the list of placement tests on the **Assignment Editor Main Menu** page. Additionally, unavailable placement tests will appear in the student's past results page, if the student completed them.

2.8 Administration

Before the **Gradebook** can begin tracking student performance, it must have students registered in the class. You can register students in your class by:

• Using the Class User Manager

• Creating and uploading a class roster

• Allowing students to register themselves for your class

To register students in your class, they must have an account in the system. Creating user accounts is usually done by the system administrator, although the system administrator can give placement testing administrators the ability to create user accounts. If students do not have user accounts when they are registered in the class, accounts are created for them automatically at that time. In addition, the system administrator can set up the system to allow students to create their own user accounts.

Using the Class User Manager

You can select students to register in your class from a list of system users. You can also search the list for users who satisfy particular criteria.

1. From the **Class Homepage**, select **Class User Manager**.

2. Select **Register Users**.

3. (Optional) Enter search criteria to narrow down the list of users or to search for a particular student.

4. Click **Search** to search for users.

5. Select the check boxes beside the student(s) you want to register in your class.

6. Click **Register**.

Creating a Class Roster

The class roster must be a text file with one line for each user. The text file (for example, *.txt and *.rst) can contain fields delimited by comma or tab characters. You can upload an Excel spreadsheet which has been saved to a text file. The first line must be a header row that specifies the data contained in each column. The headers can be in any order, to make it easy to match your existing format.

The acceptable fields in the roster are as follows:

Login, First Name, Middle Initial, Last Name, Email, Student ID, Password, Role, Require User Validation

The corresponding header row values for these are as follows:

login, first, initial, last, email, student, password, role, validate

- The fields that are required are Login, First Name, and Last Name.
- Login must be at least one alphabetical character and must be unique.
- First Name must be at least one alphabetical character.
- Middle Initial must be no more than one alphabetical character.
- Last Name must be at least one alphabetical character.
- Email addresses must be unique.
- Student IDs must be at least one alphabetical character and must be unique.
- Password must be at least five characters.
- If no password is provided, the system generates one which is displayed on the next page. You can print or save this page. If it is not printed or saved, the automatically generated password will be lost.
- Role can be Administrator, Instructor, Proctor, or Student. The role specified cannot exceed the level of the user who is creating the roster. The default is Student.
- Require User Validation is a yes/no field and determines whether students have to review their data on first login and validate it. The default setting is 'yes'.
- If you have a null field (for example, a student did not provide a middle initial), use two consecutive delimiters.

Note: If the header row includes Email and Student ID, you cannot have empty values for those fields in the rows of student data. If there are some students who do not have either an email or a student ID, you should use the value <NULL>.

Uploading a Class Roster

You can upload a class roster from your **Class Homepage**. This will register users in the system as students in your course.

1. From the **Class Homepage**, select **Class User Manager**. Select **Import Users From Roster**.
2. To locate your class roster, click **Browse**. Navigate to the file, and click **Open**.
3. From the drop-down menu, select the type of file being submitted as either comma-separated or tab-separated.
4. Click **Submit**. A table is displayed that includes all columns and information in the file.
5. Click **Update Roster**. A roster upload summary is displayed.

Updating a Class Roster and Batch Removal of Students

Class rosters can be updated by importing rows with login values that are already present in the Möbius Assessment database. It is also possible to remove large groups of students from the system at once using a special type of import. For details, consult the **Möbius Assessment User Guide** which is available inside the Möbius Assessment help system.

Student Registration

By default, class registration is locked and you must register students in your class as described above. If you unlock registration for your class, students can register themselves using the **Enroll in a Class** menu item from the **Class Manager** menu on the **System Homepage**. The student selects the class he or she wants to enroll in, and clicks **Register**. The student then clicks **Confirm** and must complete the form on the **Student Registration** screen.

You can unlock registration from your class homepage.

1. Select **Class Info** and then click **Edit**.

2. In the Class Details, clear the **Registration Locked** check box.

3. Click **Submit** to save your changes.

Creating User Accounts

If the students that you want to register are not yet users of the system and you have create privileges (the ability to create user accounts), accounts are created for them automatically when you enroll a class roster. You can also import users from the **System Homepage** if you have create privileges. To do this, you will need to have a roster file that contains the required user data. This can be the same file used as a class roster. However, note that importing users from the **System Homepage** simply adds students into the Möbius Assessment system; it does not register them into a class.

1. From the **System Homepage**, click **System User Manager** and select **Import Users From Roster**.

2. Click **Browse**. Navigate to your roster file, and click **Open**.

3. From the drop-down menu, select the type of file being submitted as either comma-separated or tab-separated.

4. Click **Submit**. A list of each student's name, ID, and email is displayed.

5. Click **Upload Roster**. A roster upload summary is displayed.

User Self-Registration

As an alternative to creating user accounts for students and enrolling them in your class, the system administrator can set up the system to allow students to create their own user accounts. Users will see a link on the login page allowing them to register themselves. After completing the self-registration process, students are given a login and password. Upon logging in, students then need to enroll in your class. For this to work, you must leave your class open for registration as discussed earlier in this section under **Student Registration**.

3 Analyzing Results

3.1 Setting Cut-Scores

The points at which placement decisions based on test results change are called cut-scores. These scores reflect the minimum level of mathematics preparation needed to begin study in a course.

Methods for Setting Cut-Scores

- **Faculty judgement of expected student performance:** faculty rate each question on the test in response to a criterion such as "What percent of students beginning this course would be expected to answer this question correctly?"
- **Use of enrolled students' performance:** actual test performance of students enrolled in the course is used to determine what the cut-scores should be.
- **Sampling within courses:** give the test to a small sample of students within the course.
- **Use of institutional quotas:** set the cut-scores based on the number of students that can be accommodated in each course.

3.2 Record Keeping

Annual improvements in placement effectiveness are based upon precise knowledge of the outcome of previous results. With the Möbius Placement Suite, you can maintain important records, such as:

- Copies of the tests given
- Cut-scores used
- Statistics: number of students tested, mean score, mean duration, median score, and success rate
- Individual student records, including records of each test attempt
- Results for individual questions or groups of questions

3.3 Möbius Placement Suite Gradebook

Möbius Assessment automatically stores placement test scores in the **Gradebook**. The **Gradebook** stores information for each student, such as placement test start time, time spent on the placement test, and individual question performance.

The **Gradebook** allows you to:

- View and analyze scores and statistics for students, assignments, and question items
- Review student results
- Create customized grade reports.
- Export grades to comma-delimited files

In addition, from the **Gradebook** you can perform additional actions such as adjusting grades and force grading active assignments.

To access the Gradebook:

- From the **Class Homepage**, select **Gradebook**, and the type of search: **Class Grades** or **Item Statistics**.

3.4 Gradebook Views

In the Gradebook, you can perform two types of searches for assignment data: by placement test data and by placement test item/question. You can then view further information, such as a particular student's data.

- To view the grades for a placement test, select **Class Grades** for the type of search. Select a placement test in the Select Assignments panel and select **Search**. The results are displayed below the Search and View panels.

- To view item statistics for each placement test question, select **Item Statistics** for the type of search. Select a placement test in the Select Assignments panel and select **Search**. For each question, item statistics are displayed, including success rate, p-value, d-value, p-biserial, and r-biserial.

- To view the grades for a student, click the name of the student in any gradebook report.

Figure 3.1: Gradebook

Performing Gradebook Searches

You can change placement test weighting or add comments from within a generated report of a placement test.

To perform a search for Class Grades:

1. In the Select Assignments panel, select the placement test(s) to include in the report.

- To include more than one placement test, press the **Ctrl** key (**Command**, on Macintosh) and click each placement test you want to include.

- To include all tests, select **All**.

- To specify a single type of assignment, select from Proctored, Homework/Quiz, Mastery, and External.

2. Filter the search results by additional criteria, if necessary.

- Classes — To display results for the current class or any child classes

- List — To display all students, or only students with grades. (**Tip**: To view the results for an instructor or proctor, select **Other users with grades**.)

- User — To search for a user by login name

- Results — Select from best, average, most recent, earliest, all (best), all (most recent), or all (earliest). If you let students attempt an assignment multiple times, you can select which result to include in your report. For example, if you select all (best), the search results display each attempt, but only the best grade is used when computing the mean, median, and item statistics.

- Progress — To display only Completed, In Progress, or To Be Reviewed tests

- Date Range — To specify date range. Only tests completed within that date range will be included in the report.

3. In the **View** panel, specify what data you see in the search results.

- Style — To indicate presentation style for the grade

- User Data — To display student information, such as first and last name, login email address, and student ID

- Grade Data — To display the date and time the test was started and finished, the time required to complete, and the number of attempts

- Summary Data — To display assignment summary data, such as total points, number of attempts, mean, and median for the assignment

4. Click **Submit** to generate the report.

Note: If you generate a report for a single placement test and some students did not grade their placement test, you will see a link in the assignment summary section **Force grade active assignments...** This allows you to grade all open assignments. You can also force grade individual assignments by clicking an individual student's name and then, from the user summary section, clicking **Active** to force grade the active assignments.

3.5 Student Statistics

From the generated report, you can view a student record report.

Student Record Reports

To view a student record report, click on the first or last name of a student in your generated report. The student record report contains the following details about the student: login, email, student ID, number of completed placement tests, and number of active placement tests. The student's scores are displayed for each placement test taken.

Additional information about each assignment session is displayed: start and end time and date, and duration.

3.6 Placement Test Weighting

To set weightings for each placement test, generate a **Grade Report**. A grade report is defined by selecting assignments, putting them into report groups, and defining the weighting for each group. You can control the grading policies that determine how grades are allocated.

To create a grade report:

1. Select **Gradebook**, then **Grade Reports**.

2. Click **New** to define a new report.

3. Specify a name for the grade report.

4. Then, click **Add Group**. Specify a name for the report group, select the placement tests for the group, and the weight of this group in the overall grade computation. Click **Save** when finished.

5. Add more groups as needed.

6. The weightings of the groups in the grade report should add to 100%.

7. To publish the grade report so students can view the report, select the **Visible** check box.

8. Click **Save** to save the grade report.

3.7 Placement Test Statistics

From the generated report, you can view details about individual placement tests. To view placement test details, from the Class Grades, click the name of a placement test at the top of the search results. This lets you view the question-by-question scores.

A summary of information on the placement test is displayed: the test name, original and current total points, number of active placement tests, class average, date last modified, number of attempts, and average number of attempts. Links to item statistics and a histogram of placement test statistics is provided if there is enough data.

The student report table now displays the students' performance on each question in the placement test. Click a question in the table to display the student responses.

3.8 Item Statistics

The system collects statistical data on the questions used in your placement tests. It can automatically produce various statistical analyses based on item usage and student performance.

To analyze the item statistics for your placement test, perform a search for **Item Statistics**. The statistical information for each question includes the success rate, p-value, d-value, p-biserial, and r-biserial, as well as the number of times the question was answered, number of times the question was answered correctly and incorrectly, and whether any partial marks were given.

For details on these statistics, see the Möbius Assessment Instructor help system.

4 Additional Resources

4.1 Question Groups and Test Creation

Möbius Assessment uses *question groups* (for example, questions from class homework, test items, or other class problem material) as the basis for constructing *assignments*. In the Möbius Placement Suite, these assignments are placement tests.

Question Groups

Questions are stored in the Question Repository and are organized in groups and subgroups. Question groups can be named to help match the structure of your course. They can also indicate learning objectives and other organizational schemes.

Assignments

Assignments (placement tests) are created by selecting questions from question groups. The assignments you create can be organized such that Möbius Assessment reorders questions, generates new questions (based on a range of variables you define), or displays a subset of questions. As such, each student viewing your assignment can potentially complete a unique set of questions.

Figure 4.1: The Relationship between Question Groups and Assignments
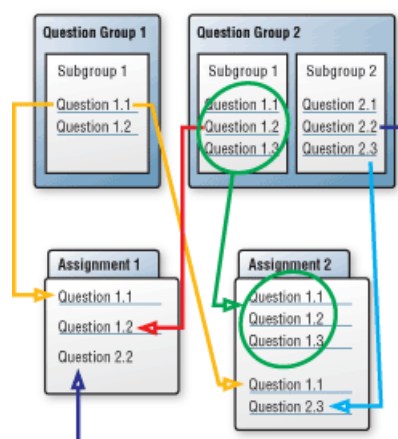
4.2 The Möbius Assessment Help System

Use the Help menu to access the online help for instructors. The help content is populated based on the user's role. As an instructor (placement test administrator) you will be able to access help for instructors, proctors, and students.

The instructor help system is an extensive resource on the following topics:

- Instructor (Placement Testing Administrator) tasks — using the Assignment Editor and the Gradebook
- Advanced Authoring — sharing questions, the Question Editor, question group structure and syntax, project elements, question types, mathematical syntax, algorithmic variables, and plain-text script authoring

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