

# **Maplesoft-MAA Placement Test Suite**

## **User Guide**

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# Preface

## Audience

The information in this guide is intended for persons who, using the Placement Test Suite, will establish, administer, and maintain the mathematics placement testing system on your campus.

## In This Guide

- Role of placement testing
- Benefits of the Placement Test Suite
- Placement Test Suite overview
- Class home page: logging on, main menu
- Assignment Editor: setting up placement tests
- Analyzing results: cut-scores, records, gradebook
- Additional resources: question banks, help system

## Conventions

This guide uses the following typographical conventions.

- **Arial bold font** - dialog, menu, text field, key, filename
- **Arial bold Important** - information that must be read and followed
- **Arial bold Note** - additional information relevant to the section or procedure
- **Century Schoolbook bold** - 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 Placement Test Suite

The Placement Test Suite is a system that offers validated placement tests developed by the Mathematical Association of America (MAA) within Maple T.A., an online testing environment.

The tests used in the Placement Test Suite were developed by panels of college and university faculty and administered to students at several institutions. The resulting data were 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.

The Maple T.A. infrastructure permits flexible scheduling, immediate grading, and rapid generation of reports. In addition, you are able to customize tests for your institution by adding randomly-generated parameters to questions and using different assignment types to satisfy your testing needs.

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## 1.3 Placement Test Subjects

The available placement test subjects areas are as follows.

<b>Placement Test</b>	<b>Number of Questions</b>	<b>Recommended Time Limit</b>
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

Each tests 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.

Four forms of each test are provided and all forms of a particular test have the same number of questions. This allows for flexibility in test delivery.



Figure 1-A Example Question

Review Class, Calculus Readiness (Form 1F) - Microsoft Internet Explorer

STUDENT > ASSIGNMENT

**MapleTA** Graded Session - Credit awarded **Maplesoft**

◀ Back ▶ Next ▲ Jump To: [ ] ✓ Grade ? Help [X] Quit & Save

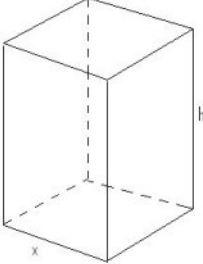
Review Class, Calculus Readiness (Form 1F)

Question 4 of 25  
Remaining time: Unlimited

**Question 4: (1 point)**

The rectangular box shown on the right has a square base and an open top. Its surface area in terms of  $x$  and  $h$  is

- $x^2h$
- $4x + h$
- $2x^2 + 4xh$
- $8x + 4h$
- $x^2 + 4xh$



---

## 1.4 Getting Started Roadmap

To set up a placement test, review the information in this guide as follows.

System Overview	<ul style="list-style-type: none"><li>• Placement Testing Administrator domain</li><li>• Student domain</li><li>• Proctor domain</li></ul>
Class Home Page	<ul style="list-style-type: none"><li>• Creating a class home page</li><li>• Logging on</li><li>• Main menu</li><li>• Navigating the system</li><li>• Help system</li></ul>
Assignment Editor	<ul style="list-style-type: none"><li>• Setting up placement tests</li><li>• Locking assignments</li><li>• Assignment visibility</li><li>• Assignment types</li><li>• Assignment properties</li></ul>
Scheduling Placement Tests	<ul style="list-style-type: none"><li>• Setting start and end times</li></ul>
Analyzing Results	<ul style="list-style-type: none"><li>• Setting cut-scores</li><li>• Record keeping</li><li>• Gradebook</li><li>• Generating reports</li><li>• Student, placement test, and question item statistics</li><li>• Administration</li></ul>

# 2 Using the Placement Test Suite

## 2.1 System Overview

Four types of users interact with the Placement Test Suite.

- **Placement Testing Administrators** install and set up placement tests, and review results in the **Gradebook**
- **System Administrators** manage system preferences.
- **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 in a comma- or tab-delimited file and incorporated into other systems for use in determining student placement.

Your Placement Test Suite class has its own **Class Home Page** URL, which is the entry point for all system interaction for you, your students, and proctors. The class contains placement tests, resource files, and the class gradebook, and also gives you access to several system tools.

### Students

**Students** must follow the guidelines set by your institution for scheduling and taking their test. Through the Class Home Page, 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:** To prevent students who are not in your class from registering, you can lock your class. You must then upload a class roster file so that your students can sign in and take tests.

## Proctors

Class **Proctors** can log in from your Class Home Page to validate a student's identity prior to administering a proctored test.

## 2.2 Class Home Page

You or your system administrator creates a unique (new empty) class Web site or one based on shared material.

### Creating a Class Home Page

To create a new class, you must first obtain a **registration code** from your system administrator.

Once you have your registration code and class registration instructions, create your new class home page or copy a shared class.

**To create a new class home page:**

1. Start at the server root address. For example, `http://servername:port`.
2. At the root address, you are given the following options:

**System Administrator**

**Register for a new class**

**Find your class**

3. Click the **Register for a new class** link to begin the class registration process.
4. From the **Select Class Template** drop-down list, select a class template or **Root Empty Class** and click **OK**.
5. Enter your registration code.

The registration code is the alphanumeric password that authorizes you to create a copy of a shared class or to create a new, empty class. You obtain it from the person sharing the class or your system administrator.

6. Complete the class registration form and click **Finish**.

<b>Class Name</b>	Select a unique name for your class, which is displayed as part of your Class Home Page. The class name must be between 5 and 50 characters long. It cannot contain the characters <, >, or &.
<b>Instructor (Placement Testing Administrator) Name</b>	Enter your name. On this system, a name can contain only the alphabetic letters a through z and A through Z, together with a - (hyphen) and ' (apostrophe). The first character must be alphabetic. The middle initial can be empty or a single alphabetical character.
<b>Email Address</b>	Enter your email address. This field is optional, but recommended.
<b>Password</b>	Select a password to access your Gradebook and create assignments. The password must be at least 5 and no more than 12 letters or numbers. Spaces are not allowed. For your security, the password does not display on the screen. To confirm the correct password, enter it twice.
<b>Class Home Page URL</b>	You must select a unique home page URL for your class. The system informs you if you have chosen a duplicate URL. Select a short string of letters or numbers that will make an easy-to-remember home site for your class. You must use between 3 and 16 characters, but only a through z, A through Z, and 0 through 9 are allowed. No punctuation, spaces, or special characters can appear in a <b>Class Home Page URL</b> .

7. The **Registration Complete** screen opens, displaying the link to your class.

Click the link to open your class home page. You can log in as placement testing administrator and review the contents of the class.

8. Add this link to your browser favorites.

**To create a copy of a shared class:**

You must be provided with a class URL, a registration code, and browser instructions to navigate to the specified **Class Home Page**.

1. Navigate to the specified **Class Home Page**, and click the **Instructor login** link to proceed to the next screen.

- Click the **Register a copy of this class** link to initiate registration of your shared class.



- When prompted, use the registration code you received from your system administrator or course coordinator to create your new class, which contains all the question banks and assignments of the shared parent class.

## Logging On

Whether your system administrator provided you with a **Class Home Page** URL and Placement Testing Administrator (**Instructor login**) password, or you created your own class home page, open a browser and navigate to this site.

Figure 2-A Class Home Page

**mapleTA** Class Home Page Maplesoft

Please add this page to your Favorites, it will be your starting point for all activity in this class.

Your Class		Instructor	
Physics 100 Maplesoft University		John Smith ( <a href="mailto:jsmith@maplesoft.org">jsmith@maplesoft.org</a> )	
Select the link for an assignment to begin:			
Assignment Name	Points	Type	Availability
<a href="#">Tutorial 1</a>	35	Homework/Quiz	Unlimited
<a href="#">Assignment 1</a>	9	Homework/Quiz	11/2/04 2:00 PM - 11/9/04 2:00 PM
Midterm Exam	19	Proctored Exam	11/2/04 2:00 PM - 11/2/04 3:00 PM

Not the correct class? [Search for your class here.](#)  
Having browser problems? [See the list of supported browsers.](#)

[Instructor login](#)  
[Proctor login](#)  
[Register as a student in this class](#)  
[View my results in this class](#)

The **Class Home Page** displays the class and placement testing administrator name, and the following links for students, placement testing administrators, and proctors.

- Assignment list indicating the name and type of test, associated points, availability, that is, scheduled dates and times, and specific policies, for example, time limit. *Clicking the assignment name launches the test.*
- Instructor or Placement Testing Administrator login.
- Proctor login.
- Student registration via the **Register as a student in this class** link.

- Placement results via the **View my results in this class link**.
- Quick links allowing you to search for a class or display a list of browser configurations.

## Main Menu

As the placement testing administrator, you must use the **Instructor Main Menu**.

### To log in to the Instructor Main Menu:

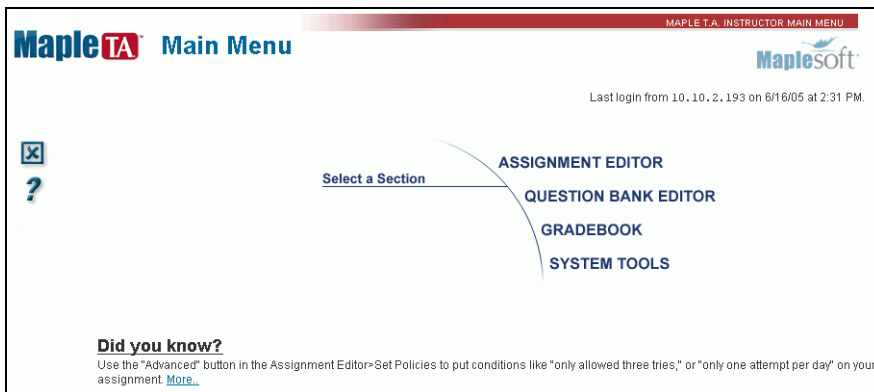
1. Click the **Instructor login link**. The **Instructor Login** dialog opens.
2. Enter the password provided by your system administrator or the one you created and click **Enter**. The **Instructor Main Menu** window opens.

The **Instructor Main Menu** provides access to:


- Assignment Editor - selecting and scheduling placement tests
- Question Bank Editor - creating questions
- Gradebook - analyzing results from placement tests, uploading a class roster
- System Tools - uploading and installing a course module

When you place your mouse over the links, tool tips are displayed.

**Figure 2-B** Instructor Main Menu



**Navigating** To navigate in the Maple T.A. system, use the system navigation buttons located at the left. **Do not** use the back and forward browser buttons.

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

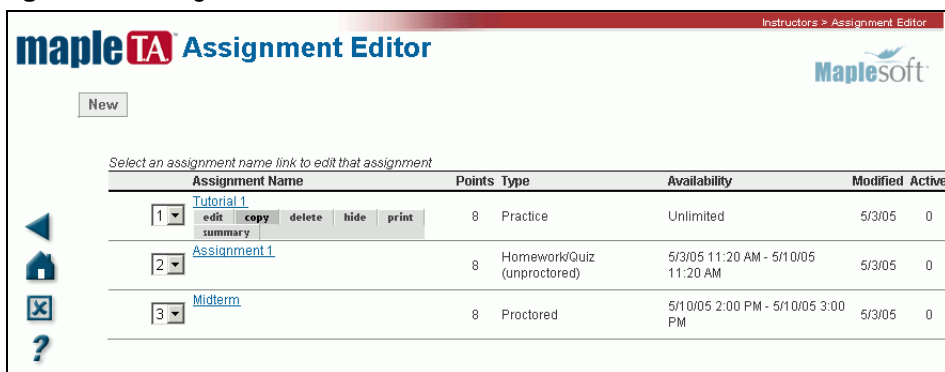
## 2.3 Assignment Editor: Setting up Placement Tests

The **Assignment Editor** main menu lists placement tests.

In the **Assignment Editor** main window, you can:

- Reorganize the order of displayed placement tests using the drop-down button.
- Open placement tests for editing by clicking the placement test name link.

Figure 2-C Assignment Editor



To activate other options, move your mouse over the placement test name. Six option buttons are displayed.

<b>edit</b>	Edit placement tests.
<b>copy</b>	Copy placement tests.
<b>delete</b>	Delete placement tests.
<b>hide/show</b>	Hide/show placement tests on the <b>Class Home Page</b> .
<b>print</b>	Print placement tests. Clicking the link displays the print preview of the placement test. You then have the option to print the placement test or click <b>Back</b> to return to the <b>Assignment Editor</b> .
<b>summary</b>	View a summary of the placement test.

**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 **Active** field of the **Assignment Editor** main menu.

- If the placement test is currently in use, the placement test is locked so that a placement testing administrator cannot edit it.
- 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 test to display by using *either* of the following methods.

- In the **Assignment Editor** main menu, click the **show** option available on mouse rollover of the placement test name.

	Assignment Name	Points	Type	Availability	Modified	Active
1	Calculus Readiness (Form 1F) edit copy delete show print summary	25	Reworkable Homework/Quiz	Hidden	1/25/06	0
2	Calculus Readiness (Form 1F)	63	Reworkable Homework/Quiz	Unlimited	1/25/06	0

- In the **Set Policies** tab of the **Assignment Editor** window, check the **Visible** check box to include the placement test in the list of placement tests displayed to students on your Class Home Page.

Assignment Visibility	
<input checked="" type="checkbox"/> Visible	Assignment is visible to students when this box is checked.
Feedback	

## 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 the type of assignment.

Figure 2-D Assignment Editor, Set Policies Tab

MapleTA Assignment Editor Maplesoft

MAPLE T.A. INSTRUCTOR MAIN MENU > ASSIGNMENT EDITOR > SET POLICIES

1. Choose Name 2. Select Questions 3. Set Policies 4. Review & Finish

Advanced

Type of Assignment	Login/PW	Results
<input checked="" type="radio"/> <b>Anonymous practice</b> (No session results are recorded)	Not required	Not recorded
<input type="radio"/> <b>Homework or Quiz</b> (All session results are recorded)	Required	Recorded
<input type="checkbox"/> Always rework the same assignment on return <input type="checkbox"/> Offer printable version of assignment		
<input type="radio"/> <b>Proctored Exam</b> (Requires proctor authorization to grade)	Required	Recorded
<input type="checkbox"/> Also require proctor sign-in to start session		
<input type="radio"/> <b>Mastery dialog</b> (Control progress question by question)	Required	Recorded
<a href="#">Edit mastery policies</a>		
<input type="radio"/> <b>Study session dialog</b> (Flashcard style learning)	Not required	Not recorded

**Assignment Visibility**

**Visible** Assignment is visible to students when this box is checked.

**Feedback**

**During the assignment**

Show hints

Allow students to check grades and feedback

For each question:  Never show the correct answer  Never show the question comment

**After the assignment is graded**

Show the final grade

For each question:  Always show the correct answer  Always show the question comment

Send email reports to \_\_\_\_\_

**Assignment Properties**

Passing score: \_\_\_\_\_ out of 24

Time limit: \_\_\_\_\_ minutes

Questions per page:

Max. # attempts allowed:

**Scheduling**

Start: Date: June 16, 2005 Time: 4 PM :00  No scheduled start

End: Date: June 23, 2005 Time: 4 PM :00  No scheduled end

Restrict feedback

If you have chosen to display feedback details, then this option will delay their display until after the end date

Note the time zone for scheduling is Eastern Standard Time

**Homework** 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. Students must be registered in the class and log in to begin a Homework assignment. 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 Assignment Requirements: Limiting Student Access to Assignments* on page 14. 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; however, students are not required to login. 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** All Proctored Exams require a proctor to authorize students submitting their test for grading. You can require proctor authorization to validate student identity and grant placement test access at the start of a test. Students must be registered in your class. They are required to provide their student log in and password to access placement tests in addition to proctor authorization.

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.

Proctors can give authorization directly, at the student's computer, or remotely through the **Proctor Tools Main Menu**. In both cases, the proctor must sign in by giving a login name and password. To give authorization remotely, the proctor must login using the **Proctor Login** option on the **Class Home Page**.

To set up proctors, you must use **System Tools**. For details, refer to the *Adding a Proctor* help page in the Maple T.A. help system.

## Assignment Properties

In **Assignment Properties**, set the following for placement tests.

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

Assignment Properties	
Passing score:	<input type="text"/> out of 35
Time limit:	<input type="text"/> minutes
Questions per page:	<input type="text" value="1"/>
Max. # attempts allowed:	<input type="text" value="-"/> ▾

**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.

**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 and Save**.

**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 amount, 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.

**Setting Assignment Requirements: Limiting Student Access to Assignments** You can restrict access to an assignment so that only students meeting certain criteria can take the assignment. You can also create assignment requirements that refer to the current assignment, even if you are working with a new assignment that has not yet been saved. The assignment on which you are working is now listed along with all other available assignments in the **Criterion** specification box. 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 assignment.

#### To restrict assignment access:

1. From the **Assignment Editor** screen in the **Set Policies** tab, click **Advanced**. 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:

The image shows two panels from a software interface. The top panel is titled "Requirements:" and contains a text area with the text: "A student may take this assignment if he/she..." followed by a text box containing the code: "(has passed \"Assignment 1\" or has made one or more attempts at \"assignment 2\")". The bottom panel is titled "Criterion 1:" and contains two rows of criteria. Row 'a.' has a dropdown menu with "has" selected, followed by a text field with "passed", a dropdown menu with "Assignment 1", and the word "or". Row 'b.' has a dropdown menu with "has" selected, followed by a text field with "made one or more attempts at", a dropdown menu with "Assignment 2", and the word "or". Below these rows are two buttons: "Remove criterion" and "Add alternative criterion". At the bottom of the panel are two more buttons: "Remove criterion" and "Add additional criterion".

The program automatically propagates the settings in the **Criterion** panel to the **Requirements** panel, and updates the criteria in this field as soon as you select a different option from the list. You do not need to take any action to add the criterion to the text area.

**Note:** You can also enter the criterion directly in the **Requirements** field, but using the **Designer** is recommended.

### 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, as shown.
- The drop-down list on the right lists all of the assignments for the class, including the assignments whose restrictions you are defining.
- **Adding an OR Criterion:** Click the **Add alternative criterion** button immediately below the list of assignments. The program 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. The program 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. The program 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 Criterion:** To close the **Set Policies -Advanced** page and save changes made to the criteria, click the **Set Policies** tab.

## 2.4 Scheduling Placement Tests

Using the calendar function in the **Scheduling** group box of the **Set Policies** tab, 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 Home Page. Scheduled times refer to your server clock and system's time zone set by your system administrator.

Scheduling						
<b>Start:</b>	Date:	September	5	, 2006	Time: 11 AM :00	<input type="checkbox"/> No scheduled start
<b>End:</b>	Date:	September	5	, 2006	Time: 11 AM :45	<input type="checkbox"/> No scheduled end
<input type="checkbox"/> Restrict feedback						
If you have chosen to display feedback details, then this option will delay their display until after the end date						
Note the time zone for scheduling is Eastern Standard Time						

Before and after the indicated availability window, the placement test is still displayed in the placement test list viewable by students on your Class Home Page, but it cannot be selected. Note that unavailable placement tests 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.

# 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 rates 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 student’s performance:** use actual test performance of students enrolled in the course to determine what the cut-scores should be.
- **Sampling within courses:** give the test to a small sample of students.
- **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 Placement Test 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, lower quartile, median score, upper quartile, and success rate
- Individual student records, including records of each test attempt

### 3.3 Placement Test Suite Gradebook

Session scores are automatically recorded in the **Gradebook** for placement tests requiring students to login. The **Gradebook** stores information for each student, such as the placement test start time, the time spent on the placement test, and the individual question performance.

The Gradebook allows you to:

- View, analyze, and report scores and statistics for students, placement tests, and question items
- Review and edit student results for specific graded sessions
- Create reports organized by student, placement test, or by question item
- Export grades to comma-delimited or tab-delimited (.txt) files
- Complete administrative tasks, such as changing passwords, uploading and managing class rosters, and sending messages to students

**To access the Gradebook:**

- From the **Instructor Main Menu**, click **Gradebook**.

### 3.4 Gradebook Views

The Gradebook provides three views of placement test data.

- **Student Statistics** tab displays a list of students and their grades
- **Assignment Statistics** tab displays summary statistics for each placement test
- **Item Statistics** tab displays summary statistics for each question on an placement test

For information on the **Administration** tab, see *Administration* on page 24.



## Generating Reports

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

### To generate a report in the Gradebook:

1. In the **Student, Assignment, or Item Statistics** tab, select the placement test(s) to include in the report.
  - To include more than one placement test, press the **CTRL** key and click the placement tests.
  - To include all placement tests, click **Select all**.
2. Select the data to include in the report from the **Show Results, Date Range, Display, and Grade Style** group boxes.
3. Select **Printer-Friendly Table** to display the report in a separate window. Otherwise, the report displays below the **Get Report** button.
4. Select **Download this table as:** to obtain a comma, or tab file of the data.
5. Click **Get Report**.

## Student Statistics

On the Gradebook **Student Statistics** tab, you can select from the following options to build reports.

- **Assignment(s)** - To specify placement tests to include. (Use **CTRL** to select more than one placement test.)
- **Show Results** - To display results, for example, best or most recent.
- **Date Range** - To specify date range, placement tests completed within that date range will be included in the report.
- **Display** - To display date and time the placement test was started, the time required to complete, and the Student ID.
- **Grade Style** - To indicate presentation style for the grade.

- Printer-Friendly - To display the report in a separate window.

Figure 3-A Student Statistics Tab

The screenshot shows the MapleTA Gradebook interface for the Student Statistics tab. The page title is "GRADEBOOK > STUDENT STATISTICS". The navigation tabs are "Student Statistics", "Assignment Statistics", "Item Statistics", and "Administration". The main content area is divided into several sections:

- Assignment:** Select one or more assignments to view results. A list shows "Midterm", "Assignment1", "Tutorial", and "Practice". There are "Select all" and "Clear all" links.
- Show Results:** Radio buttons for "Best", "Most Recent", "Last Two", "Last Three", and "All".
- Date Range:** "From:" and "To:" fields with dropdown menus for "Month", "Day", and "Year".
- Display:** Checkboxes for "Date", "Start Time", "Time on Task", and "Student ID".
- Grade Style:** Radio buttons for "Short (e.g. '7')", "Long (e.g. '7/10')", and "Percentage (e.g. '70%')".

At the bottom, there are checkboxes for "Printer-Friendly Table" and "Download this table as:" with a dropdown menu set to "Comma delimited". A "Get Report" button is located at the bottom left.

From the generated report, you can view a student record report or change the weighting for placement tests.

## Placement Test Weighting

After you generate your placement test grade report from contents of the **Student Statistics** tab, you can set weighting for each placement test with respect to the cumulative grade for the class. Click **%Weight** in the report. The **Set Weightings** window opens.

Assignment	% Weight
Assignment 3	35 + -
Assignment 2	30 + -
Assignment 1	35 + -
TOTAL	100 %

Cancel Ok

Figure 3-B Example Report from Student Statistics Tab

**mapleTA** Gradebook Maplesoft

Close Show Hidden Password Authorize New

**Name:** Jenny Johnson      The most recent assignment that the student took was started on 11/3/04 at 11:46 AM. The student has taken a total of 1 homework assignments. There is no currently active test.  
**Login:** jjohnson  
**ID:** 098879873  
**Class:** Physics 100

**Past Assignments**  
 Click on an assignment below to see the student's answers, to change the grade, or to add comments on the student's work.

Assignment Name	Grade	Type	Date	Time on task
<a href="#">Tutorial 1</a>	33.5	Homework/Quiz	11/3/04, 10:46 AM	13
<a href="#">Tutorial 1</a>	13.5	Homework/Quiz	11/1/04, 11:46 AM	13

### Assignment Statistics

In the **Assignment Statistics** tab, you can select from the following options to build a report.

- **Assignment(s)** - To include in your report (use **CTRL** to select more than one placement test).
- **Date Ranges** - To specify date range. Placement tests completed within that date range are included in the report.
- **Printer-Friendly** - To display the report in a separate window.

Figure 3-C Assignment Statistics

**MapleTA** Gradebook Maplesoft

Student Statistics **Assignment Statistics** Item Statistics Administration

**Assignment:**  
 Select one or more assignments to view results.  
 Midterm  
 Assignment1  
 Tutorial  
 Practice  
[Select all](#) | [Clear all](#)

**Date Range:**  
 From: Month Day Year  
 To: Month Day Year

Printer-Friendly Table       Download this table as: Comma delimited

**Get Report**

Assignment	# Assignments	Mean Score	Mean Duration	Lower Quartile	Median Score	Upper Quartile
<a href="#">Assignment1</a>	1	11.00	2.70	11.00	11.00	11.00

The following is a sample report covering a single placement test.

**Figure 3-D** Example Report from Assignment Statistics

Assignment	# Assignments	Mean Score	Mean Duration	Lower Quartile	Median Score	Upper Quartile
<a href="#">Tutorial 1</a>	1	5.50	2.78	5.50	5.50	5.50

This report provides the following information.

Item	Description
Assignment	The name of the assignment presented as a link.
#Assignments	The total number of assignments taken by students. This number might be greater than the number of students if the assignment allows for multiple submissions of work.
Mean Score	The average score of all assignments taken.
Mean Duration	The average time taken by students to complete the assignment (in minutes).
Lower Quartile	The score that $\frac{1}{4}$ of the students scored at or below.
Median Score	The score that $\frac{1}{2}$ of the students scored at or below.
Upper Quartile	The score that $\frac{3}{4}$ of the students scored at or below.

As with the other Gradebook reports, results presented allow you to access more detailed information by clicking the name of an assignment.

## Item Statistics

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

On the **Item Statistics** tab, select from the following options to build a report.

- Assignment(s) - To specify items from particular placement tests (use **CTRL** to select more than one placement test).

- **Date Range** - To specify date range. Placement tests completed within that date range are included in the report.
- **Printer-Friendly** - To display the report in a separate window.

Figure 3-E Item Statistics

The screenshot displays the MapleTA Gradebook interface for Item Statistics. The top navigation bar includes 'Student Statistics', 'Assignment Statistics', 'Item Statistics', and 'Administration'. The 'Item Statistics' section is active, showing a selection of 'Assignment1' and a date range filter. Below the form, there are checkboxes for 'Printer-Friendly Table' and 'Download this table as: Comma delimited'. A 'Get Report' button is located below the form. The report table below shows the following data:

Assignment	Item	Success Rate	p-Value	d-Value
<a href="#">Assignment1</a>	1 <a href="#">Maple-Graded</a>	1.000	1.000	0.000
	2 <a href="#">Multiple Choice</a>	1.000	1.000	0.000

From this report, you can:

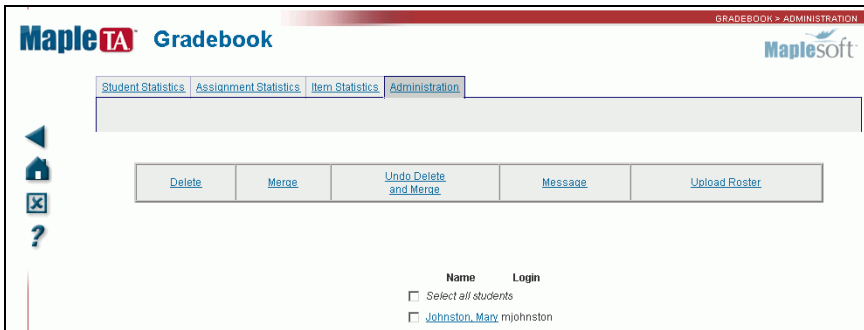
- Click the name of the assignment on the left to view the summary of the assignment as set in the **Assignment Editor**.
- Click the title of an individual problem or question to preview it.
- Click a column title to view statistical item analysis. For example, the **Success Rate** of an item is the average normalized score on that item. With each item graded between 0.0 and 1.0 (that is, normalized), the average score is computed over the set of all scores recorded for that item in the current assignment.

## 3.5 Administration

The Gradebook **Administration** tab displays a list of all students registered in the course, including their names and logins. You can use this to:

- Edit student information for individual students.
- Upload a class roster using the **Upload Roster** option. For details, see the following section.

**Figure 3-F** Administration Tab



### Student Roster

Before the **Gradebook** can begin tracking student performance, it must have a student roster. You can create a roster by:

- Uploading a roster. See *Uploading a Class Roster* below.
- Allowing students to register themselves for your course. See *Student Registration* on page 25.

**Uploading a Class Roster** You can upload a class roster using the **Upload Roster** option on the **Administration** tab. The system uploads a text file (for example, \*.txt and \*.rst) that has one line for each student and has the following format:

first name, middle initial, last name, student ID, login, password, email

- The fields that are underlined are required.
- 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.
- Student ID must be at least five alphanumeric characters.

- Login, password, and email are optional, but if a login is provided for a student, a password must also be provided.
- If no login is provided the system generates a login and password, which is displayed on the next page. You must print this page. If it is not printed, the automatically generated login and passwords will be lost.
- The fields can be delimited by space, tab, or comma characters.
- If you have a null field, for example, the student did not provide a middle initial, use two consecutive delimiters.

### To upload a class roster:

**Important:** Create your class roster as a text file and save it.

1. In the **Gradebook**, click the **Administration** tab.
2. Click **Upload Roster**.
3. Select your **File Type** based on the type of delimited text file or spreadsheet.
4. To locate your class roster, click **Browse**. Navigate to the file.
5. Click **Ok**. A screen listing the students' names, logins, and passwords is displayed.
6. Click **Ok**. You return to the **Administration** tab.

**Student Registration** Students can register for your class using the **Register as a student in this class** link in the **Class Home Page**.

**Figure 3-G** Student Registration through Class Home Page

The screenshot shows the Maple TA Class Home Page for a class titled "Physics 100" at Maplesoft University. The page is divided into two main sections: "Your Class" and "Instructor".

**Your Class:** Physics 100, Maplesoft University. Below this, there is a table of assignments:

Assignment Name	Points	Type	Availability
<a href="#">Tutorial 1</a>	35	Homework/Quiz	Unlimited
<a href="#">Assignment 1</a>	9	Homework/Quiz	11/2/04 2:00 PM - 11/9/04 2:00 PM
Midterm Exam	19	Proctored Exam	11/2/04 2:00 PM - 11/2/04 3:00 PM

**Instructor:** John Smith ([j.smith@maplesoft.org](mailto:j.smith@maplesoft.org))

Below the instructor information, there are links for "Instructor login" and "Proctor login". A red arrow points from the "Assignment 1" link in the table to the "Register as a student in this class" link. Another red arrow points from the "Instructor login" link to the "Register as a student in this class" link.

At the bottom right, there are two more links: "Register as a student in this class" and "View my results in this class".

They must complete the form on the **Student Registration** screen. You can lock access to this form of registration by using the **System Tools**. For more information on managing your system, see the Maple T.A. online help.





# 4 Additional Resources

## 4.1 Question Banks and the Help System

Maple T.A. uses **question banks**, for example, questions from class homework, test items, or other class problem material, as the basis for constructing **assignments**.

### Question Banks

Question bank files are plain-text files, with a **.qu** extension, structured according to the Maple T.A. question bank syntax.

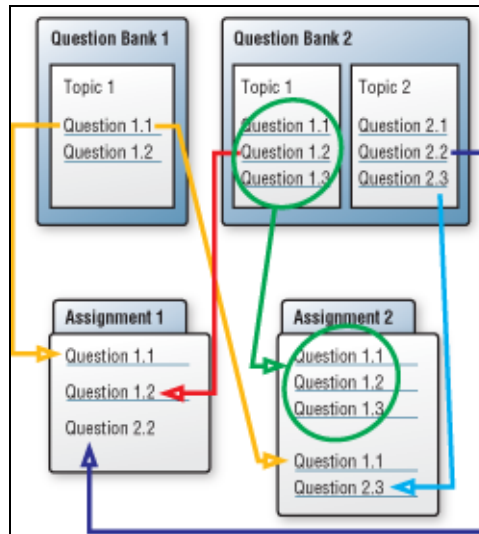
Question banks are organized into **topics**, which contain individual questions. Topics help organize questions to match the structure of your course. They can also indicate learning objectives and other organizational schemes. Every question bank has at least one topic, and every topic has at least one question.

### Assignments

Assignments are created by selecting questions from question banks. The assignments you create can be organized such that Maple T.A. 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-A** The Relationship between Question Banks and Assignments



## Help System

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

- Instructor (Placement Testing Administrator) tasks - using the Assignment Editor, Gradebook, and System Tools
- Advanced Authoring - Question Bank Editor, question bank structure and syntax, project elements, question types, mathematical syntax, algorithmic variables, LaTeX authoring, and plain-text script authoring

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