

# 10

## Advanced Enrollment Plugin

*Almost all educational programs that organize a series, or set of courses into a curriculum, also establish and enforce rules about how a student may matriculate through the courses. Colleges and universities, for example, design a curriculum such that more advanced level courses are taken by students who are in their junior and senior years and who have already completed more basic prerequisite courses in their earlier years. Likewise, programs within an educational institution, such as language education programs, dictate which courses students may take based upon the students' levels. For example, a student who is studying Spanish for the first time would take an entry level course while a different student, who has mastered the basics and even studied abroad in a Spanish-speaking country, would take a more advanced level Spanish course. Additionally, most educational institutions set course capacity limits, especially for courses that include an interactive component, in order to ensure that teachers are able to provide adequate attention to each student in his or her classroom.*

*The final step in adapting your Moodle instance into a full-fledged CIMS, that will be covered in this book, is to enable your site to function as a registration and enrollment system that will allow you to regulate how students matriculate through the set of courses that make up your curriculum.*

In this chapter, we will walk through the following in order to help you get your registration system installed and set up in your Moodle CIMS:

- ◆ Download and install the Registration Enrollment plugin
- ◆ Enable and set up the Registration Enrollment plugin to control enrollment for selected courses
- ◆ Test the Registration Enrollment plugin to confirm its functionality

## Introducing the Registration Enrollment plugin

The Registration Enrollment plugin that will be introduced in this chapter was developed through a Nihon University Individual Research Grant for 2009 that was awarded to the author of this book and the plugin was donated to the public under the same GNU Public License used by Moodle. Developmental work, in the form of programming and design collaboration, was performed by the Moodle Partner, MoodleRooms.

This plugin uses values stored in the custom user profile fields that were discussed in *Chapter 8, Setting Up a Mini SIS* and it will allow you to control all of the following when students register for courses within your Moodle CIMS:

- ◆ Set a maximum number of students that may enroll in a course
- ◆ Set up multiple priority enrollment periods in order to allow specific groups of students to register for courses before they are open to all students
- ◆ Control enrollment in a course based upon a value stored in a user profile field
- ◆ Specify the number of courses in which a student is allowed to enroll in a given period

Additionally, the following capabilities have been incorporated into the future development plan for the plugin in the form of filters internal to the plugin:

- ◆ Ability to select multiple user profile fields when specifying the necessary criteria for course enrollment
- ◆ The ability to chain together a series of logical elements, or statements, in order to fine-tune the conditions used for determining whether a student can enroll in a course or not

As additional funding becomes available, or if another developer wishes to add to the functionality, this plugin will evolve with more features and capabilities. Please consider contributing to the development of this and other publicly available plugins as your Moodle CIMS site takes hold and you discover a need for specific capabilities and functionality.

### **Time for action – installing the Registration Enrollment plugin**

Installation of the Registration Enrollment plugin is the same as for other blocks, modules, and plugins. To download and install the plugin follow these steps:

- 1.** From the Moodle **Modules and Plugins** page search for and download the registration system.
- 2.** Expand the `registration_system` folder that is downloaded to your hard drive.

3. Inside the folder will be a `blocks` directory and an `enrol` directory. Copy the contents of each to the respective directories located in your Moodle root directory. There are two directories (folders) in the `blocks` directory and one in the `enrol` directory.
4. After you have placed all of the components of the plugin in their correct locations, log in to your site as admin and click on the **Notifications** link found in the **Site Administration** block on the front page of your site.
5. You will see a short series of messages indicating that the tables for the registration system have been set up correctly. Click the **Continue** button found at the bottom of the screen below the **Success** message, as shown in the following screenshot:



### ***What just happened?***

We just downloaded and installed the Registration Enrollment plugin in the same fashion that almost all Moodle plugins (blocks, modules, and other plugins) are installed. This has set up the tables in the Moodle database that will be used by the system, as well as placed all of the PHP files that are a part of the system, in their correct locations. Next, we will enable the Registration Enrollment plugin and start working with the various settings it contains.

### **Time for action – creating and populating the user profile fields**

We are going to set up our registration enrollment system to use two user profile fields, the Program of Study field we created in *Chapter 8, Setting Up a Mini SIS* and a new field to house information about students' proficiency levels. The registration enrollment system uses user profile fields, and their values, to establish criteria that control whether a user is allowed to enroll in a course or not, so we thus need to create and populate the new user profile field before we may proceed with the Registration Enrollment plugin setup. Follow these steps to create and populate the new field:

1. Log in to your Moodle site as admin and, from the **Site Administration** block, click on **Users**, then **Accounts**, and then **User profile fields**.
2. Use the pull down menu to create a new **text input** user profile field.

3. We are going to create a user profile field titled "level" and use the field to store proficiency level information such as Advanced, Intermediate, and Beginner. Use the following values for the field you are about to create:
  - ❑ **Short name:** level
  - ❑ **Name:** Proficiency level
  - ❑ **Description:** Short description
  - ❑ **Required:** No
  - ❑ **Locked:** Yes
  - ❑ **Unique:** No
  - ❑ **Display on signup page:** No
  - ❑ **Visible to:** Visible to user
  - ❑ **Category:** Other fields
  - ❑ **Default value:** None
  - ❑ **Display size:** 15
  - ❑ **Maximum length:** 15
  - ❑ **Password field:** No
  
4. The following screenshot is of the **Creating a new "Text input" profile field** screen with all of these settings entered and selected:

### Creating a new "Text input" profile field

**Common settings**

Short name (must be unique)\*

Name\*

Description of the field

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Trebuchet | 1 (8 pt) | Lang | **B** | *I* | U | ~~S~~ | x<sub>2</sub> | x<sup>2</sup> | [Icons]

This is your proficiency level as determined by the language program assessment test.

Path: [body](#)

Is this field required?

Is this field locked?

Should the data be unique?

Display on signup page?

Who is this field visible to?

Category

---

**Specific settings**

Default value

Display size

Maximum length

Is this a password field?

5. After you have entered all of the settings, click on the **Save changes** button to create the field.

6. Next, we will populate the field for 60 students. This will be more than sufficient to allow us to test the registration enrollment system after we have finished setting it up. Use the `CIMS-CH10-ProfileFields.csv` file found at the Packt website and the procedure outlined in *Chapter 8, Setting Up a Mini SIS* to populate the fields for these 60 students. Note that 15 students from each of the four levels of students we have set up in our site (Advanced, Intermediate, Beginner, and Basic) were selected randomly and those are the levels that are being used to populate the field we have just created.

### ***What just happened?***

We have just created and populated an additional user profile field, called "level", to be used by our registration enrollment system. Note that the fields that were just populated will be visible to users when they log in and view their profiles as well as to users of the Xataface system we set up in *Chapter 7, Advanced Data Access and Display* and *Chapter 8, Setting Up a Mini SIS*. We have set up these fields such that they are locked to the user viewing his or her profile within Moodle, but these values could be accessed and edited from our backside Xataface application if we wanted educational administrators to be able to modify the information. Next, we need to set up our registration enrollment system such that it will use these fields, and their values, to control enrollment in some of our courses.

### **Time for action – setting up the Registration Enrollment plugin (default site-wide settings)**

Now that we have installed the files that make up the Registration Enrollment plugin and have created a new user profile field to be used by the system, we need to enable the plugin and then set it up to control the enrollment for some of our courses. Follow these steps to get the system up and running:

1. Click on the **Courses** and then **Enrolment** links found in the **Site Administration** block on the front page of your Moodle site.
2. This will present the **Enrolments** window that will look like the following screenshot. Tick the **Enable** box found to the right of the **Registration Enrolment** line, as shown in the following screenshot, and then click on the **Save changes** button:

Name	Enable	Default	Settings
Authorize.net Payment Gateway	<input type="checkbox"/>	<input type="radio"/>	<a href="#">Edit</a>
External Database	<input checked="" type="checkbox"/>		<a href="#">Edit</a>
Flat file	<input type="checkbox"/>		<a href="#">Edit</a>
IMS Enterprise file	<input type="checkbox"/>		<a href="#">Edit</a>
Internal Enrolment	<input checked="" type="checkbox"/>	<input type="radio"/>	<a href="#">Edit</a>
LDAP	<input type="checkbox"/>		<a href="#">Edit</a>
Moodle Networking	<input type="checkbox"/>		<a href="#">Edit</a>
PayPal	<input type="checkbox"/>	<input type="radio"/>	<a href="#">Edit</a>
Registration Enrolment	<input checked="" type="checkbox"/>	<input type="radio"/>	<a href="#">Edit</a>

[Save changes](#)

3. Next, click on the **Edit** link to access the plugin settings.
4. The **Registration Enrolment** window that will appear, shown in the following screenshot, presents a **Save changes** button but clicking on this button will merely return you to the **Enrolments** window, shown in the preceding screenshot. Instead, click on the **Main Registration Block Settings** link to access the settings.

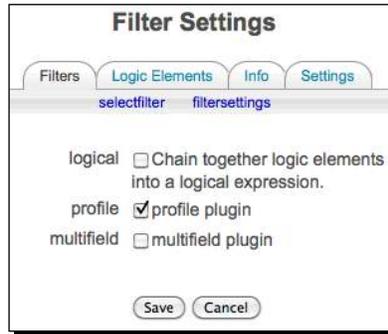
### Registration Enrolment

This enrolment plugin must be enabled for the registration system to function.

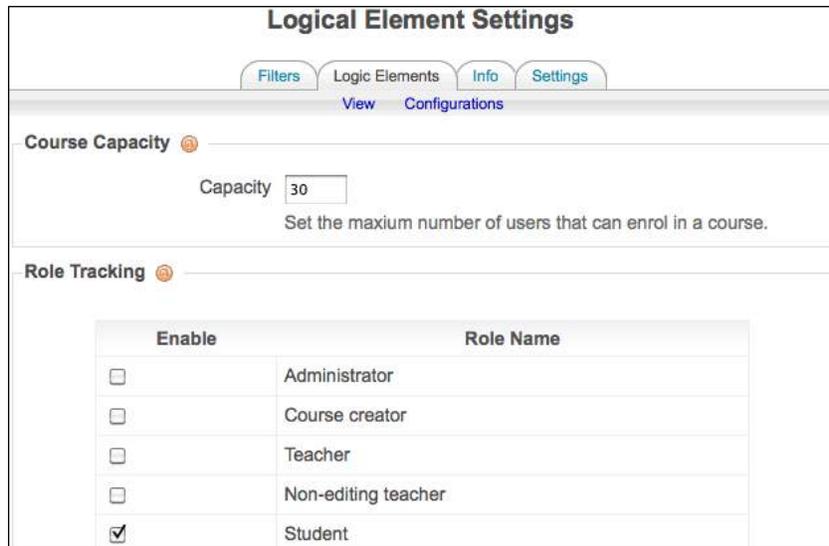
[Main Registration Block Settings](#)

[Save changes](#)

- The **Filter Settings** window, shown in the following screenshot, will be displayed. This is the window from which settings for the registration system can be accessed. Although the **logical** filter tickbox appears on the **Filter Settings** window, programming that will allow the chaining together of logical expressions is not yet complete and this function is thus not yet available. Additionally, while the **multifield** filter is functional, it cannot be used in conjunction with the **profile plugin** and thus does not incorporate the various settings that are available when using the **profile** filter. Select the tickbox next to the **profile** filter and click the **Save** button to save the filter setting.



- After you have selected the **profile plugin** and clicked the **Save** button, click the **Logical Elements** tab to access the various settings for the site-wide default settings for the registration enrollment system. The subsequent window will be the **Logical Elements Settings** window, the top portion of which is shown in the following screenshot:



7. The following is a list, and brief description, of the settings that can be adjusted from this window. The suggested setting, for this tutorial, is listed in a subpoint after each setting description. Several of these settings can also be overridden at the individual course level. This override capability is also noted in the following list. Note also that the first two settings, **Course Capacity** and **Role Tracking**, can be seen in the preceding screenshot. The remaining settings are shown in the screenshot that follows this list:
- **Course Capacity:** Use this to set a maximum number of users allowed to enroll in a course. This setting can be overridden at the individual course level. Set this to 30 (we will override this value at the course level for our example).
  - **Role Tracking:** Use this to set the roles to which you want the enrollment registration system to apply. This setting cannot be overridden at the course level. Enable **Student** by clicking in the tickbox located to the left of the **Student** role name.
  - **Period:** These settings control the period of time during which users are allowed to enroll via the Registration Enrollment plugin. Note that multiple periods may be created but that they should not be overlapped. Doing so will result in unpredictable and/or inaccurate behavior. This setting cannot be overridden at the course level. Give the **Period** a name such as **Test Period**, allow only one enrollment, and set a date that is approximately one week from the time you plan to test the plugin.
  - **Priority by Period Startdate:** This setting allows you to set a priority enrollment period, designated by a specific number of days and hours, prior to the **Period** start date and time, during which users with a specific value in a userfield, selected and designated by a site administrator, may enroll in the course. This may be conceptualized as an advance enrollment feature that is used for students who meet predetermined criteria for advanced enrollment. This setting can be overridden at the individual course level. Additionally, multiple instances of the **Priority by Period Startdate** may be created to accommodate various situations and conditions.
  - **program Userfield:** Use this and set the **Value** to *Teacher Training*. Set the **Days** and **Hours** settings such that a user who meets this condition will be able to enroll when you test the system. (For example, if you have set your course to start in seven days, set this value to seven days. This will allow you to log in as a user who is enrolled in the Teacher Training program and confirm that the user is able to advance enroll in the course.)

- ❑ **Userfield Value:** This is the setting that must be used to specify what condition needs to be met for users to enroll in the course. For our example, we will create a new course that is available only to advanced level students, so use the **level Userfield** that we created earlier and set the **Value** to **Advanced**.
- ❑ **Send iCalendar Event on Enrol:** Although this setting appears on the **Logical Elements Settings** page, this feature has not yet been added to the Registration Enrollment plugin and is thus not yet selectable. Settings listed here from **Period** to **Send iCalendar Event on Enrol** can be seen in the following screenshot:

The screenshot displays a web interface for configuring course enrollment settings. It is divided into four main sections, each with a title and a help icon:

- Period:** Contains fields for Name (Test Period), Allowed Enrollments (1), Start Date (1 October 2010 10:45), and End Date (7 October 2010 10:45). A description states: "The period in which these settings will apply." An "Add Instance" button is located below.
- Priority by Period Startdate:** Contains fields for Userfield (program), Value (Teacher Training), Days (7), and Hours (0). A description states: "Users that have matching fields with the value will be able to enrol X days before the current period's enrollment start date." An "Add Instance" button is located below.
- Userfield Value:** Contains fields for Userfield (level) and Value (Advanced). A description states: "Users whom have this user field matching this value can enrol".
- Send iCalendar Event on Enrol:** A description states: "Email an iCal event for course start time upon a user's successful enrollment."

At the bottom of the form are "Save" and "Cancel" buttons.

8. Click the **Save** button, shown in the preceding screenshot, to save all of the settings that you have just entered.

### ***What just happened?***

We have now enabled the Registration Enrollment plugin and set the default settings to be used by the plugin. Some of these settings, such as **Role Tracking** and the **Period**, are settings that can only be modified from this site-wide setting area while others, such as **Course Capacity** and **Priority Period**, are settings that serve as site-wide default settings but can be overridden from within each individual course. One note of caution here is to remember that while multiple enrollment periods can be created, they must not overlap. Future versions of this plugin may allow for the creation of multiple enrollment periods, that may be selected from within each individual course, but this initial version is equipped only to utilize one period at a time. It is thus important to be careful when creating additional enrollment periods to make sure that they do not overlap.

### **Time for action – registration enrollment system settings (course level)**

In addition to the site-wide settings used by the registration enrollment system, there is also a block that is used at the course level to override values and add additional priority periods to those set at the site-wide level. As we have already enrolled users in the courses we have created on our test site, we will create a new course, set it up to use the registration enrollment plugin, and use the **Course Registration** block to override some of the site-wide default values. Follow these steps to create the course and get it set up to use the Registration Enrollment plugin:

1. Log in to your Moodle site as admin and click on the **Show all courses** link found at the bottom of the **MyCourses** block.
2. From the subsequent **Course Categories** window, click on the **Add a new course** button found at the bottom of the page.
3. Using the pull down menu, set the **Category** to **Listening** and give the course a **Full name** of *Special Listening* and a **Short name** of *SP-List*. Enter a short **Summary** and leave the remaining **General** settings at their defaults.

4. Scroll down to the **Enrolments** heading and use the **Enrolment Plugins** pull down menu to select the **Registration Enrolment** plugin, as shown in the following screenshot. Make sure the **Yes** button, next to the **Course enrollable** heading, is selected but leave the **Start date** and **End date** disabled. Additionally, the **Enrollment duration** can be left as **Unlimited**.



The screenshot shows the 'Enrolments' configuration form. It includes the following fields and options:

- Enrolment Plugins:** A dropdown menu set to 'Registration Enrolment'.
- Default role:** A dropdown menu set to 'Site Default (Student)'.
- Course enrollable:** Radio buttons for 'No', 'Yes', and 'Date range'. The 'Yes' option is selected.
- Start date:** Fields for day (29), month (September), and year (2010), with a checked 'Disable' checkbox.
- End date:** Fields for day (29), month (September), and year (2010), with a checked 'Disable' checkbox.
- Enrolment duration:** A dropdown menu set to 'Unlimited'.

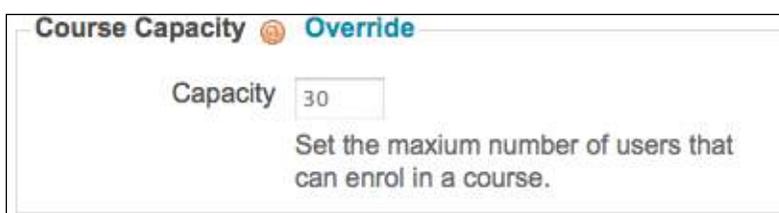
5. For this example case, use the default values for the remainder of the course settings. Scroll to the bottom of the page and click on the **Save changes** button to create the course.
6. On the subsequent **Assign roles** page, you may assign a teacher but we will not be using a teacher account for this example, so it is unnecessary. Click the **Click here to enter your course** button to enter the course.
7. From within the course, click the **Turn editing on** button.
8. With editing turned on, use the **Blocks** drop-down menu to find and select the **Course Registration** block.
9. Once you have added the **Course Registration** block, and with editing turned on, several icons will appear below the **Course Registration** block title, as shown in the following screenshot:



10. The first icon from the left allows you to assign roles that will have access to the block. If no roles are assigned here, the only user able to access this block is the admin. The second icon, the visibility setting, will most likely not be used because access can be controlled via the role setting. The third icon, the Configuration

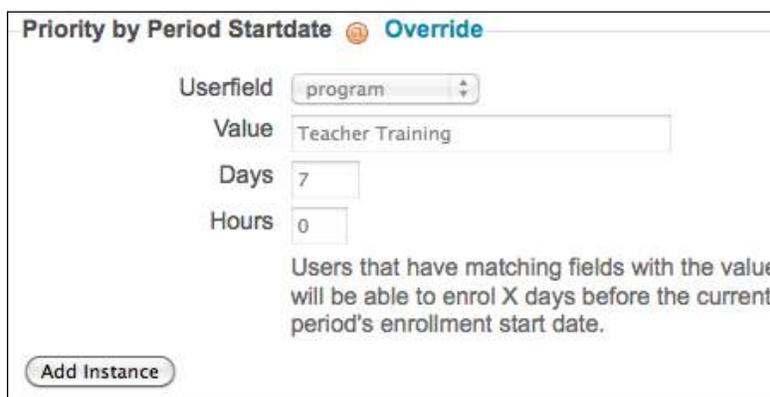
icon, will present a window that allows for setting the maximum capacity. It is recommended that you use the Logical elements link—explained next—instead of the Configuration setting, in order to avoid confusion. The last three icons, the delete and move icons, perform the same actions as on all other blocks.

11. Turn off editing in your course and then click on the **Logic Elements** link to access the course level settings for the Registration Enrollment plugin. Notice that all of the headings that appeared in the site-wide settings window, explained earlier in this chapter, are visible here, and that those that cannot be overridden at the course level, cannot be selected or modified. Those that can be overridden contain an **Override** link to the right of the heading title, as shown in the following screenshot:



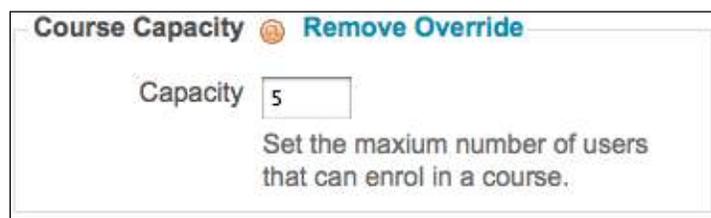
The screenshot shows a settings window titled "Course Capacity" with an "Override" link. Below the title is a "Capacity" input field containing the number "30". A descriptive text below the input field reads: "Set the maximum number of users that can enrol in a course."

12. Also note the **Add Instance** button located within the **Priority by Period Startdate** setting box, shown in the following screenshot. This allows for adding additional priority enrollment periods.



The screenshot shows a settings window titled "Priority by Period Startdate" with an "Override" link. Below the title are four input fields: "Userfield" (a dropdown menu showing "program"), "Value" (a text input field containing "Teacher Training"), "Days" (a text input field containing "7"), and "Hours" (a text input field containing "0"). Below these fields is a descriptive text: "Users that have matching fields with the value will be able to enrol X days before the current period's enrollment start date." At the bottom left of the window is an "Add Instance" button.

13. Click on the **Override** link located on the right of the **Course Capacity** heading and change the value from 30 to 5, as shown in the following screenshot:

A screenshot of a web interface showing the 'Course Capacity' settings. At the top, there is a heading 'Course Capacity' with a small orange icon and a blue link 'Remove Override'. Below this, there is a text input field labeled 'Capacity' containing the number '5'. Underneath the input field, there is a descriptive text: 'Set the maximum number of users that can enrol in a course.'

14. For this example, we will not override or add any other settings, so scroll down to the bottom of the page and click on the **Save** button to save the **Course Capacity** override setting.

### ***What just happened?***

We have just created a new course for the purpose of testing the Registration Enrollment plugin and set the course to use the Registration Enrollment plugin. We then created an instance of the Course Registration block from within the course and modified the site-wide Course Capacity settings by applying an Override and changing the maximum capacity from 30 to 5. As a result of both the site-wide settings we have chosen for the registration enrollment system and the settings we have dictated from within the course we set to use the plugin, we now have a course in which five students, who must be designated as Advanced level students, may enroll. Additionally, students in the Teacher Training program, who are Advanced level students, will be able to enroll seven days prior to the beginning of the enrollment period. Next, we need to test the system to make sure that it will perform as desired.

## **Testing the Registration Enrollment plugin**

In order to understand how the registration enrollment system responds to both students who are eligible to enroll in a course and to those who are not, we will walk through some simple test enrollment scenarios using the course we have just created and some of the student accounts to which we assigned the **level** User profile fields earlier in this chapter.

### **Time for action – testing the priority enrollment period setting for an eligible student**

We will now set up a scenario that will allow us to test the functionality of the priority enrollment period feature. Follow these steps to test the priority enrollment period setting:

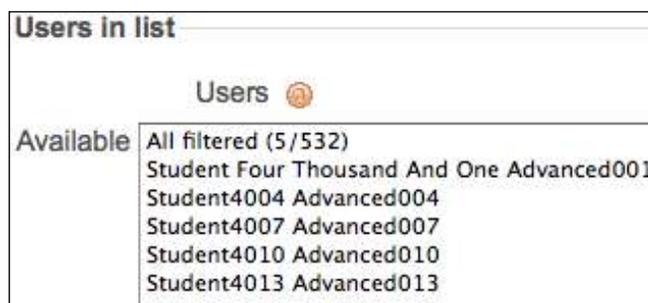
1. First, in order to test the priority enrollment setting, please make sure that your current time is within the priority enrollment period window of time. In other words, if you have set the course enrollment period to start seven days from today, you will need to also have your priority enrollment period set to at least seven days in order to make it possible for the student accounts that meet the criteria to be able to enroll.
2. Once you are sure that the current time, the time you intend to test the system, is within the priority period, use the **Bulk user actions** filter feature found in the **Site Administration** block by clicking on the **Users** and then the **Accounts** link, to select a user who is designated as an advanced user.
3. Click on the **Show Advanced** button from within the **Filter** heading and create a filter that will return only students with the value **Teacher Training** in their **program userfield**, as shown in the following screenshot:



4. After clicking on the **Add filter** button to add the first filter, create a second filter, that will be applied to the group of students returned by the first filter, to select only those students with the value **Advanced** in their **level userfield**. The settings for the second filter are shown in the following screenshot:



5. If you have created the CIMS Moodle site outlined in this book to this point, applying these two filters will result in five students being displayed, as shown in the following screenshot:



6. Note the students who meet the criteria for priority enrollment (students 4004, 4007, 4010, and 4013) and use the following three usernames and log in passwords for testing the system, as explained in the following steps. Note you can also obtain this information by referring to the file we used to create these accounts, introduced in *Chapter 3, Student Account Creation and Enrollment* to find the log in username and password for each student.
  - ❑ Student4001—Username = S400001 and Password = S4001
  - ❑ Student4004—Username = S400004 and Password = S4004
  - ❑ Student4007—Username = S400007 and Password = S4007
7. Now, log out of the site and then log back in using the account information, as listed in step 6, for Student4001.
8. After logging in as Student4001, click on the **Show all courses** link found at the bottom of the **MyCourses** block.
9. From the subsequent **Course Categories** page, click on the **Listening** category link. On the resulting page the **Special Listening** course will be listed below the **Listening Sub-categories**.
10. Click on the **Special Listening** course link to attempt to enroll in the course. As this student meets the criteria for registering in this course (he or she is an **Advanced** level student and is also enrolled in the **Teacher Training** program and thus eligible for advanced enrollment), the **Would you like to enroll in this course?** message will appear, as shown in the following screenshot. Click on the **Yes** button to enroll this student.



11. You are then taken to the front page of the course as the student is enrolled in the course. Log out of the site and follow the same process for the other two students listed in the previous steps (S400004 and S400007).

## ***What just happened?***

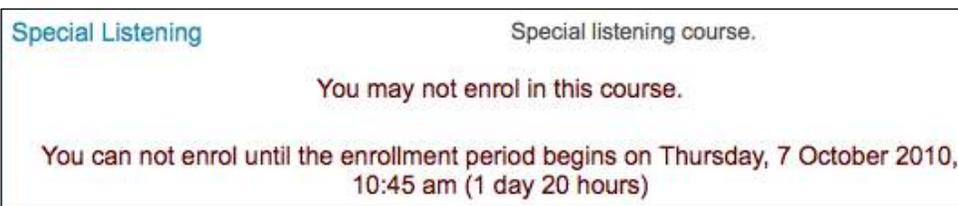
We just enrolled a student in a course that is set to use the Registration Enrollment plugin. The student was able to enroll in the course because he or she met all of the criteria we set up via the Registration Enrollment plugin site-wide and course specific settings, which are:

- ◆ The student is an Advanced level student
- ◆ The student is enrolled in the Teacher Training program, which makes him/her eligible to enroll ahead of the enrollment period
- ◆ The student is not yet enrolled in any courses that use the Registration Enrollment plugin and thus does not yet exceed the number of courses allowed, which we have set at one

## **Time for action – testing the priority enrollment period for an ineligible student**

Follow these steps to see how the Registration Enrollment plugin will handle a student who meets the criteria set for enrollment in the course, but who does not meet the priority enrollment period criteria.

1. Log out of the site and log back in as Student4002.
2. Student4002 is an **Advanced** level student, which is the criteria for enrolling in the class, but is not enrolled in the **Teacher Training** program, the criteria for advanced enrollment. Use the **username S400002** and **password S4002** to log in as this student.
3. Navigate to the course using the **Show all courses** link found in the **MyCourses** block and click on the course link to attempt to enroll in the course.
4. You will receive a message informing you that the enrollment period has not yet begun for the course with a message about when the period will begin, as shown in the following screenshot. The time remaining until the enrollment period starts will, of course, depend upon the time you have entered for the enrollment period to begin.



## **What just happened?**

We just tried to enroll a student who met the criteria for enrolling in the course, which is being in the Advanced level. The student however, did not meet the priority enrollment criteria and was thus not allowed to enroll in the course. The student was thus presented with an on-screen message informing him or her that enrollment would be possible once the enrollment period begins. We saw that the message presented to such students also provides information about the enrollment period start date and time as well as how much time remains before the said period is to begin.

## **Time for action – testing the Registration Enrollment plugin for a non-eligible student**

Follow these steps to see how the Registration Enrollment plugin will handle a student who does not meet any of the criteria for enrolling in the course. Note, this example is also applicable to students who meet the priority enrollment period criteria but do not meet the primary requirement, which is defined from within the plugin using the **Userfield Value** setting. Users who may, incidentally, meet the priority enrollment period requirements, are not allowed to enroll in a course if the primary requirement has not been fulfilled.

- 1.** Use the following account to log in to the course: Student3001 – Username = S300001 and Password = S3001.
- 2.** Again, navigate to the **SP-List** course and click on the course link to attempt to enroll in the course.
- 3.** This time you will see an error message informing the student that he or she is not eligible to enroll in the course, as shown in the following screenshot. Note, you can change the text of the error message that appears via the language `block_registration.php` file located at the following path in your Moodle directory `yourmoodledirectory/lang/en_utf8/block_registration.php`. Open the file with your text editor and change only the text in between the single quotes.



## What just happened?

We just tried to enroll a student who did not meet the Advanced level criteria we set for the course. The student was informed, via an enrollment error message, that he or she was not eligible to enroll in the course.

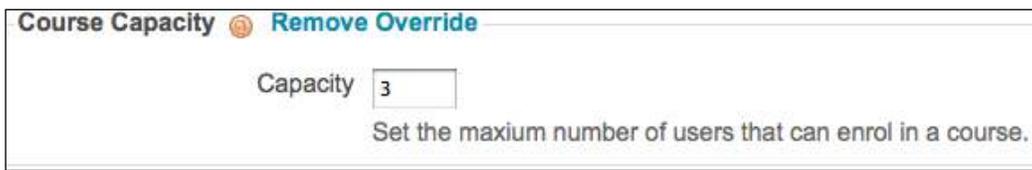
## Have a go hero

You will probably want to customize the message that appears when students are not allowed to enroll in a course. Open the file that contains the language strings, mentioned in the previous step, and change the text to something that is appropriate to your institution or program, then retry the enrollment and verify that the message appears as desired.

## Time for action – testing the course capacity setting of the Registration Enrollment plugin

Let's now test the course capacity setting to make sure that the Registration Enrollment plugin will prevent users from enrolling in a course once its capacity has been met. Follow these steps to test this feature:

1. As we currently only have five students in our system who are eligible to enroll in the course and the course maximum is set to five, we will have to change a setting to create the scenario. There are several ways this can be achieved. The easiest is to navigate to the **SP-List** course and change the course capacity setting via the **Course Registration** block.
2. We earlier overrode the site-wide setting of 30 and set the capacity of this course to 5. We currently have three students enrolled in this course, so change this number to 3, as shown in the following screenshot, and click on the **Save** button at the bottom of the page:



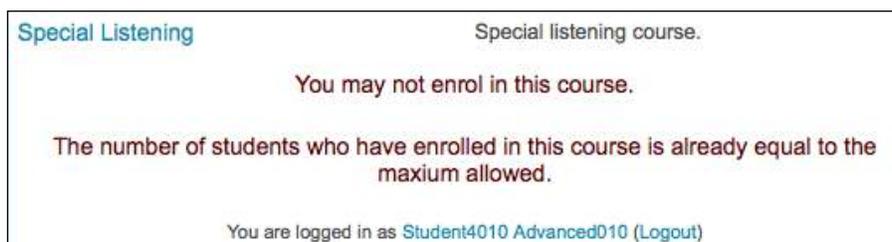
Course Capacity [Remove Override](#)

Capacity

Set the maximum number of users that can enrol in a course.

3. Now, log out of the site and back in as Student4010, one of the students that is eligible to enroll in the course, and one who is eligible to advance enroll. The user information for this student is Username = **S400010** and Password = **S4010**.

4. Navigate to the **SP-List** course and click on the course link to attempt to enroll in the course. The student will be displayed with an error message informing him or her that the course has reached its capacity, as shown in the following screenshot. Note that students may still be enrolled via the **Assign roles** function found in the **Administration** block of the course by a teacher or administrator. This allows for special enrollments through the use of a system that, for example, requires students to consult with instructors personally and be approved for enrollment by the teacher after the maximum capacity has been met.



### ***What just happened?***

We just tried to enroll a student in our course who met both the base enrollment criteria and the priority enrollment period criteria. The student was however, not allowed to enroll in the course because the course capacity, that we set to three, had been met. The student thus received an error informing him or her that the course was at its maximum enrollment.

### **Have a go hero**

Many institutions allow students to enroll in courses that are already at their max only after they have talked with the instructor in person and received permission to enroll in the course. Edit the error message students see when the course has "filled" to reflect this policy and instruct students to see the instructor of the course to request permission for enrollment.

### **Time for action – testing the Registration Enrollment plugin base criteria**

Follow these steps to confirm that the plugin will allow a student, who meets the base criteria, to enroll in a course once the enrollment period has begun:

1. Navigate to the site-wide settings for the Registration Enrollment system and change the enrollment date from seven days in the future, to today. This will allow all users who meet the enrollment criteria to enroll today, the day you are testing the plugin.

2. Also, navigate back to the **SP-List** course and change the capacity setting that we changed to 3 back to 10, in order to allow more enrollments.
3. Next, log out of the site and back in as an eligible student. We'll use **Student4015** for this example. While this student is not enrolled in the Teacher Training program, he or she is in the **Advanced** level and thus meets the criteria for enrollment in the course now that we have changed the enrollment period to start today.
4. Navigate to the **SP-List** course and attempt to enroll in the course by clicking on the course link. The **Would you like to enroll in this course?** message will appear and clicking on the **Yes** button will enroll this student in the course, which confirms that the plugin is allowing eligible students to enroll once the enrollment period has begun.

### ***What just happened?***

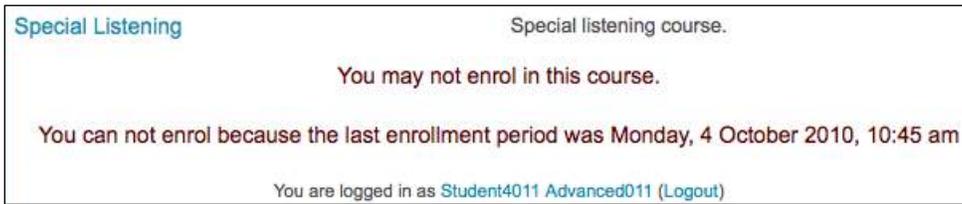
This simple test allowed us to confirm that students who meet the base criteria, but do not meet the priority enrollment criteria, may enroll in the course once the enrollment period has begun.

## **Time for action – testing the Registration Enrollment plugin after the period has ended**

In order to make sure that the plugin will not allow students to enroll in a course once the enrollment period has ended, follow these test steps:

1. First, change the enrollment period via the site-wide settings. These settings are accessed via the **Site Administration** block by clicking on the **Courses** and then **Enrolments** links.
2. Click on the **Edit** link to the right of the **Registration Enrollment** plugin name and then on the **Main Registration Block Settings** link to access the plugins settings, which are then found by clicking on the **Logic Elements** tab.
3. Change the **Period** such that the end date and time has passed. For example, change the period end date to yesterday's date. This will close the enrollment period for all students. Note, also make sure to change the start date and time to some time that occurs before the end date and time.
4. Log out of the site and then back in using the following account:  
**Student4011—Username = S400011 and Password = S4011.** This student is an Advanced level student but is not in the Teacher Training program.

5. Attempt to enroll in the course by navigating to and clicking on the **SP-List** course link. This time the error message informs the student that the enrollment period for this course has ended and that he or she may thus not enroll in the course, as shown in the following screenshot:



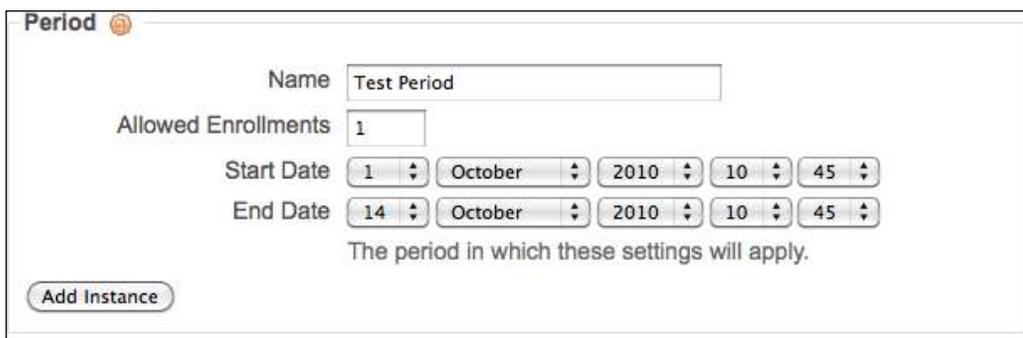
### ***What just happened?***

We just attempted to enroll a student, who met the enrollment criteria, in the course but the student was not allowed to enroll because the enrollment period had ended. We saw that the student receives an error informing him or her that the enrollment period ended and is given information about when the period ended.

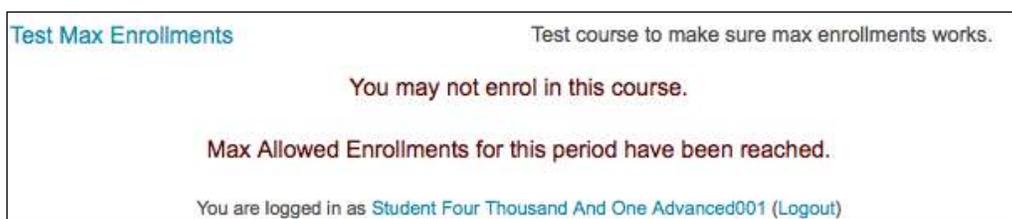
## **Time for action – testing the Registration Enrollment plugin Allowed Enrollments setting**

In order to confirm that the Allowed Enrollments setting will limit the number of courses a student is allowed to enroll in, follow these steps. Also, remember that this setting will only control the number of enrollments in courses that are set to use the Registration Enrollment plugin.

1. From the site-wide settings for the **Registration Enrollment** plugin, scroll down to the **Period** heading and change the **Allowed Enrollments** setting to 1, as shown in the following screenshot:



2. The setting of 1 will mean that students can only enroll in one course that uses the Registration Enrollment plugin and as we currently only have one such course in our test site, we will need to create one more course that uses the Registration Enrollment plugin.
3. Also, change the enrollment period that we "closed" for the previous test, back to a time frame that includes your current time in order to "open" the enrollment period.
4. Create a new course that uses the Registration Enrollment plugin, as explained earlier in this chapter.
5. Add the **Course Registration** block to the course.
6. Now, log in as one of the advanced level users that we enrolled in our **SP-List** course and attempt to enroll in the newly created course.
7. You will receive an error explaining that the student has reached his or her maximum enrollments and may not enroll in any more courses, as shown in the following screenshot:



### ***What just happened?***

We have just tested the allowed enrollment setting by trying to enroll a student that is already enrolled in the maximum number of courses allowed by the plugin. We were able to confirm the functionality of the plugin by observing that the student was not allowed to enroll in the course and was issued a message informing him or her of the reason.

## Pop Quiz

1. Which of the following would you use to allow users to enroll in a course three days prior to the official enrollment period?
  - a. The Max Allowed Enrollments setting.
  - b. The Course Capacity setting.
  - c. The User Field Value setting.
  - d. The Priority by Period Startdate setting.
  
2. Which of the following would allow you to use the registration enrollment plugin to limit enrollment in one course to 15 and in another course to 50?
  - a. The site-wide Course Capacity setting.
  - b. An Override on the Course Capacity from within each individual course.
  - c. Manually closing enrollment once the capacity has been met.
  - d. Use of multiple site-wide Period settings.

## Testing the Registration Enrollment Plugin—a review

We have successfully tested various scenarios to verify that the Registration Enrollment plugin will control enrollments in our courses as per the conditions we dictated when we set up the plugin. We tested and were able to verify the functionality of the following scenarios:

- ◆ That the system prevents a user who does not meet the criteria for enrollment from enrolling in the course.
- ◆ That the system prevents a user who is eligible to enroll in the course from enrolling prior to the enrollment period start date and time.
- ◆ That the system will allow a user who meets the enrollment criteria and who also meets the criteria for priority enrollment to advance enroll in the course.
- ◆ That the system will not allow any users, eligible or ineligible, to enroll in the course once the course capacity has been met.
- That the system will not allow any users to enroll in the course once the enrollment period has ended.
- ◆ That the system will allow users who meet the criteria to enroll in the course during the enrollment period.
- ◆ That the system will prevent users from enrolling in more courses than are allowed via the **Allowed Enrollments** setting.

This system provides crucial functionality for educational programs that wish to position Moodle as a CIMS within their institution. Hopefully, additional funding and/or volunteer development efforts for refinements to the system will enable it to evolve into an even more advanced enrollment management tool. One such feature, mentioned earlier in this chapter, is the ability to apply enrollment condition rules via the use of multiple user profile fields.

### **Have a go hero**

The current 1.0 version of the Registration Enrollment plugin, while still slightly rough around the edges, allows for a wide variety of uses through the use of the user profile fields and the priority enrollment settings. Try experimenting with the plugin and setting up multiple enrollment periods, that do not overlap, each with its own conditions for enrollment. Inversely, experiment with multiple priority enrollment settings, which may occupy the same time frame, to accommodate for different enrollment conditions. The flexibility built into these two settings will allow you to work many scenarios into your enrollment settings.

### **A note on Moodle customization**

The registration enrollment system introduced in this chapter was developed through a Nihon University Individual Research Grant for 2009 and is an example of how Moodle can be customized to meet the needs of a particular institution or program. Once the initial design and conceptualization phase of the project was approved and funding was granted, MoodleRooms, a Moodle Partner in the U.S., was contracted to carry out the programming and testing of the plugin. The development of even a seemingly simple plugin was a project that spanned the course of over one year and involved many e-mails and testing sessions. If you plan to undertake the development of a customized Moodle Block, Module, or Plugin, it would invariably be beneficial to work on the following at the outset of the project:

- ◆ Establish a detailed specification outline that explains the functionality and logic behind the planned development.
- ◆ Choose a developer, if the project is going to be contracted out, and make sure that the developer is confident that the proposed functionality can be accomplished.
- ◆ Seriously consider Moodle Partners for any development you have done as they are the most intimately familiar with the Moodle system and also channel a portion of their income back to Moodle headquarters, which means you are also supporting Moodle financially when you use a Partner.
- ◆ Make sure that you are involved in the testing process and that the plugin being developed is tested rigorously to ensure that all bugs have been worked out of the final product.
- ◆ Establish a communication channel with the individuals involved in the programming and testing of the plugin and utilize it as frequently as possible.

In the end, you will have a customized plugin, which adds functionality to Moodle and that enables it to further meet the needs of your institution and, hopefully, you will consider contributing the development to the Moodle community via the Moodle.org website. Contributions of this type can be made via the CONTRIB Coordinator, *Anthony Borrow*, by following the instructions outlined at the following address on the Moodle.org website: [http://docs.moodle.org/en/Development\\_\(Guidelines\\_for\\_contributed\\_code\)](http://docs.moodle.org/en/Development_(Guidelines_for_contributed_code)).

Note also that your participation in the forums in the **Using Moodle** course found on the Moodle.org website is one very easy way that you can contribute to Moodle's development and evolution.

## **Summary**

In this chapter, you were introduced to the Registration Enrollment plugin and we then walked through the download and installation process for the plugin. We enabled the plugin and worked through the set up by entering the settings we planned to use. Next, we created a course in which we specified the registration enrollment plugin as the enrollment method and then added the Course Registration block to the course. We used the block to override some of the site-wide settings and then tested the system by logging in as various users to see how the plugin would perform. We observed how the plugin allows eligible users to enroll in courses as well as how it prevents ineligible users from enrolling and how it informs these users that they may not enroll in the course.

The Registration Enrollment plugin can be used in conjunction with other enrollment plugins to manage enrollment on your Moodle site, but if you are working to establish your Moodle site as a Curriculum and Information Management System, you may opt to use it as the sole enrollment plugin and thus position your Moodle site as the portal through which students must register for their courses. Institutions or programs choosing this route will need to consider how course enrollment data, stored in the Moodle database, will be utilized for various administrative tasks such as transcript creation, but remember that Moodle is an open and flexible system that can accommodate most all educational environments as well as interact with various external data management systems, and it is thus highly likely you'll be able to figure out a way to position your Moodle site as your own CIMS.

# Pop Quiz Answers

## Chapter 3

### Student Account Creation and Enrollment

1	B
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## Chapter 5

### Enabling your Moodle Site to Function as an Information Portal

1	B
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## Chapter 6

### Customized Roles

1	B
2	D
3	D

## Chapter 7

### Advanced Data Access and Display

First pop quiz:

1	B
2	B
3	B

Second pop quiz:

1	B
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## Chapter 8

### Setting Up a Mini SIS

First pop quiz:

1	D
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Second pop quiz:

1	B
2	D

## Chapter 10

### Advanced Enrollment Plugin

1	D
2	B