



Managing Courses

- Lesson 1 Overview of the Course Catalog**
- Lesson 2 Creating and Managing Course Masters**
- Lesson 3 Creating and Managing Course Offerings**
- Lesson 4 Curricula and Certificates**



Overview of the Course Catalog

The Course Catalog is a repository for all courseware including courses, curricula, and certificates.

Lesson topics

This lesson presents the following topics:

- Course catalogs
- End-to-end course deployment
- Self-paced and instructor-led courses

Course Catalog

The administrator's Course Catalog contains two catalogs:

Masters Catalog – The course structure and meta-data. Course Masters are used to create offerings.

Offerings Catalog – Instances of course offerings. A course offering can be:

- Scheduled – classroom-based offering
- Not scheduled – self-paced
- Limited – offered for a specified time span (the expiration date is specified)

Both the Masters and Offerings Catalogs are comprised of a set of folders. Folders contain sub folders and courses.

The student user interface contains the **Student Catalog**, which displays course offerings to which the student can enroll.

Course mode

There are three hierarchical course modes:

Registered Master – The registered master is the course archetype. The Course Master defines the course manifest, including structure, title, description, language, and prerequisites. There is one Registered Master for each course. Only those with access to the Master Catalog can view Course Masters.

Course Entry – The Course Entry is the organization's implementation of the course. It executes the business rules for enrollment and grading and specifies the implementation resources including Delivery Server, discussion server and other collaboration servers, and e-mail capabilities. There can be multiple Course Entries associated with a Course Master.

Course Offering – The Course Offering is the scheduled instance of a course. It specifies when and where a course will be conducted and identifies the instructor. Students enroll in course offerings. There may be more than one course offerings for each Course Entry.

End-to-End

End-to-end refers to the process of creating a course, registering the Course Master in the LMM, creating a course offering, enrolling students, and tracking results and completion.

End-to-End process

1. Online course is developed.

Self-paced, online courses are developed in applications and then imported to the Learning Management System. The Learning Management System provides course-authoring tools in the Application Authoring Tool (AAT), a separate application used to develop, package, and export a course to the LMS. Courses that conform to the SCORM and AICC standards can be imported into the AAT.

2. Online course package is created.

The completed course is compiled into a Course Package. The Course Package contains the:

- Course Manifest - course meta-data including title, description, structure, and tracking settings
- Course content files

Courses created in or imported to the authoring tool can be packaged in the tool.

3. Online course is uploaded.

The Course Package is uploaded to a common, FTP-enabled server. The authoring tool sends a message to the LMM, which includes the name and location of the course package and server.

Courses that conform to the SCORM 1.2 standard can be imported directly to the FTP server using the Command Line Import Utility (CLIMP).

End-to-End...*(continued)*

End-to-End process...

4. Unregistered Master for online course is created in LMM.

The LMM automatically reads the package from the FTP server. LMM decompresses, parses, and validates the course structure. The course is written to the database as an unregistered master.

5. Registered Master is created.

When creating a classroom-based course, the process begins with creating a course master.

There are two methods to create a registered course master:

- Online course: Register the unregistered master that was created when the course package was uploaded from the ATT or imported using CLIMP.
- Classroom-based course: Create a new course master.

6. Course Entry is created.

The Course Entry is the organization's implementation of a course. It contains custom settings including:

- Enrollment guidelines
- Discussion database (for one or more offerings)
- Delivery Server
- Offering Status – active, inactive, draft

For example, a course may be purchased from a vendor. The administrator can customize the course to specify the organization's enrollment guidelines, assign chat and discussion resources, modify course code, and so on.

The Course Entry is then stored in the Offerings Catalog.

7. Online course is deployed.

When an online Course Entry is created, the course is automatically deployed to the specified Delivery Server and HTTP server. The Delivery Server parses the course structure and creates tables in its database to store and track student activity. The course content files are sent to the HTTP server for Web delivery.

End-to-End...*(continued)*

End-to-End process...

8. Classroom-based course offering is scheduled.

A **course offering** is an instance of the classroom-based course. Students enroll in course offerings. For each Course Entry, there can be multiple course offerings. For example, a course for newly hired employees may be offered each Monday. The course content and structure is the same for each offering, but the time, location, and instructor will vary.

The administrator creates one or more course offerings, specifying the offering dates, times, location, and instructor. The administrator also requests resources for the offering including an instructor and classroom. These requests are forwarded to the resource managers, either a room contact or the instructor.

Note: Course offerings are not created for self-paced, online courses.

9. Students are enrolled.

Students are enrolled in the course. If the course is enabled, students can self-enroll in the course. Enrollment data is stored on both the Delivery and LMM Servers.

For classroom-based courses, students attend the course by going to the scheduled room. Virtual students are sent a link to the LearningSpace – Virtual Classroom.

When a student clicks the link to attend an online, self-paced course, the Delivery Server authenticates their access and displays the course.

10. Student attends course.

For classroom-based courses, students attend the course by going to the scheduled room. Virtual students are sent a link to the LearningSpace – Virtual Classroom.

When a student clicks the link to attend an online, self-paced course, the Delivery Server authenticates their access and displays the course. The course displays in a frameset, which contains the course structure and navigation tools. Course content is displayed from the HTTP server.

End-to-End...*(continued)*

End-to-End process...

11. Student completes the course.

Tracking data for the student's course activities is accumulated in the Delivery Server database. If LMM ascertains completion of the course, it updates the student's progress transcript.

Note: Progress data for classroom-based courses is manually entered into LMM.

Self-Paced and Instructor-Led Courses

The IBM Lotus Learning Management System can manage several types of courses.

Types of courses

There are three types of courses that can be managed in LMS:

- Self-paced courses

Self-paced courses include courseware that is completed independently. Most self-paced courses that will be managed in the LMS will be delivered to students online, using the Delivery and HTTP server. Student progress is automatically tracked.

- Instructor-Led

Instructor-led courses or sessions are conducted by an instructor. These sessions can occur in a physical setting, for example, a classroom, lab, or auditorium. Instructor-led sessions can also be conducted online, in the LearningSpace – Virtual Classroom. Both delivery types require an instructor.

- Blended Courses

Blended courses include both self-paced and instructor-led sessions. Instructor-led sessions can include live, classroom-based meetings as well as live, online sessions conducted in the IBM Lotus LearningSpace – Virtual Classroom. Blended courses are managed as self-paced courses. Instructor-led sessions are included in the course outline.

Workflow differences

The end-to-end workflow will vary depending on whether the course is self-paced, instructor-led, or blended. For example, self-paced courses are not scheduled and so a course offering is not created.

Self-Paced and Instructor-Led Courses...(continued)

Workflow differences...

The table below shows the general workflow and indicates the tasks and actions that occur for each type of training.

	Task/Action	Self-Paced	Instructor-Led	Blended
1	Develop content in the authoring tool.	Yes	No	Yes
2	Course package created.	Yes	No	Yes
3	Course package uploaded to FTP server.	Yes	No	Yes
4	Unregistered Master created in LMM.	Yes	No	Yes
5	Registered Master created.	Yes	Yes	Yes
6	Course Entry created.	Yes	Yes	Yes
7	Course deployed to DS/HTTP server.	Yes	No	Yes
8	Course Offering created.	No	Yes	Yes
9	Students enroll in course.	Yes	Yes	Yes
10	Student attends course.	Online	With instructor	Online and with instructor
11	Student progress data tracked.	Automatic	Manual	Automatic and manual
12	Student completes course, completion data is stored.	Automatic	Manual	Automatic and manual



Creating and Managing Course Masters

Course Masters are the archetype of the course. A Course Master provides course meta-data, including the course title, description, prerequisites, and source of online content. The Course Master also defines the general resources required for delivery, including physical or virtual classroom space. The Masters Catalog is the repository of all Course Masters.

Lesson topics

This lesson presents the following topics:

- Creating a Course Master
- Modifying the Course Master
- Updating the Course Master

Creating a Course Master

To create and manage Course Masters, you use the **Course Catalog** tab. The following figure shows the Course Catalog tab.



Create a Course Master

Follow these instructions to create a course master.

1. From the **Course Catalog** tab, click **Register Master**.
2. Select **Course Master** and click **Continue**.
3. Select **I want to create a new master** and click **Continue**.

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Creating a Course Master...(continued)

Create a Course Master...

Result: The **Master Details** window displays. The figure below shows an example of a completed Master Details form.

Cancel Continue

Master Details

Enter information about the course below.

Title*

Description

Course Number*

Keywords (Use ";" as separator)

Language

Expiration Date (YYYY MM DD)

Can Be Scheduled

Delivery Medium

Requires Discussion

Requires Chat

* Indicates a required field

4. Enter the **Title** and **Course Number** and select or enter other course parameters and settings.
5. Click **Continue**.

Result: The course title and description display.

Cancel Continue

Course Prerequisites

Enter information about the course prerequisites below.

Title

Description

Prerequisite Name	Prerequisite Description
No selected items	

(continued on next page...)

Creating a Course Master...(continued)

Create a Course Master...

6. Click **Add Prerequisite** to search and select courses that must be completed prior to enrolling in this course or click **Continue**.
7. Click **Add Booking Requirement** to specify the physical space that is required to present the course. Complete the form and click **OK**.

The following figure shows an example of a completed Booking Requirement form.

The screenshot shows a form titled "Booking Requirement" with the following fields and values:

- Activity Type:** Classroom (dropdown menu)
- Duration:** 1 Days, 4 Hours/Day
- Schedule On Day:** 1
- Resources:**
 - Instructor Count: 1
 - Room: Conference Room (dropdown menu)
- Comments:** This class typically requires:
 - 10 seats
 - Corporate LAN access
 - On site only, vendor rooms should not be used.

At the bottom right of the form are two buttons: "Cancel" and "OK".

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Creating a Course Master...*(continued)***Create a Course Master...**

8. Click **Add Virtual Classroom Block** to specify the requirements for sessions that will be conducted in the LearningSpace – Virtual Classroom.
9. Complete the form and click **Add**.

The following figure shows an example of a completed Create Requirement Block form.

Create Requirement Block	
Create or modify information for a Virtual Classroom requirement.	
Duration	<input type="text" value="120"/> Minutes
Schedule on Day	<input type="text" value="10"/>
Instructor Count	<input type="text" value="1"/>
Recorded	<input type="checkbox"/>
Moderated	<input checked="" type="checkbox"/>
Broadcast	<input type="checkbox"/>
Chat Enabled	<input checked="" type="checkbox"/>
Whiteboard	<input checked="" type="checkbox"/>
Web Pages	<input checked="" type="checkbox"/>
Application Sharing	<input checked="" type="checkbox"/>
Polling	<input checked="" type="checkbox"/>
Breakout Sessions	<input type="checkbox"/>
<input type="button" value="Cancel"/> <input type="button" value="Add"/>	

(continued on next page...)

Creating a Course Master...(continued)

Create a Course Master...

10. Review the virtual and physical spaces that you have defined and click **Continue**.

The figure below shows an example of a Course Schedule Outline.

Course Schedule Outline Cancel Continue

Create or edit schedule blocks for this master.

Title New Hire Orientation

Description This mandatory course is for new employees. During the half-day session, employees learn about the corporate philosophy and mission statement complete diversity training. Employees also complete the rwquired federal and local pay forms, select benefits, and choose payroll options.

▲ ▲ ▼ ▼ Delete Edit Add Booking Requirement

Activity Type	Instructors	Room	Duration	Comments
<input checked="" type="radio"/> Classroom	1	Conference Room	1 Days 4 Hours per day	View
<input type="radio"/> Virtual Classroom	1		1 Days 120 Minutes	

▲ ▲ ▼ ▼

Note: Select the booking requirement and click **Edit** to modify it or **Delete** to remove it.

- 11. Select a folder in the Masters Catalog where the Course Master will reside, and click **Save**.
- 12. Click **Done**.

Modify a Course Master

Some properties of a Course Master can be modified. For example, you can add, modify, or delete bookings and prerequisites, and you can change some of the course details.



Modify a Course Master

1. From the **Course Catalog** tab, click **Manage Masters Catalog**.
2. Select the folder in which the Course Master resides.
3. Enter a keyword assigned to the course and click **Search**.

Result: The courses that are assigned the keyword display. The figure below shows the search results for the sample course.

Manage Masters Catalog
Course Catalog ► Manage Masters

Browse Masters Catalog

Browse the Masters Catalog to find a master.

Keyword Search

[Advanced Search](#)

Search from current folder

Master Catalog ► Masters Catalog ► Sales

Create Folder
1-1 ▼

Name	Description
<div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: #ccc; margin-right: 5px;"></div> Searching Inventory </div>	This course teaches store personnel to use the Inventory Search application to search, order, and track current inventory.

1-1 ▼

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Modifying a course Master

Modify a Course Master...

4. Click the icon next to the course title to display the properties page, as shown in the figure below.

The screenshot shows a web interface for a course master titled "Searching Inventory". At the top right is a "Cancel" button. Below the title are three tabs: "Details" (selected), "Prerequisites", and "Schedule Outline". The main content area displays the text "This master has the following properties:" followed by four buttons: "Edit", "Delete", "Unregister", and "Copy". Below these buttons is a list of properties for the course master:

Title	Searching Inventory
Description	This course teaches store personnel to use the Inventory Search application to search, order, and track current inventory.
Course Number	SALES 104
Keywords	Tools, Sales, Inventory
Language	English (United States)
Create Date	3/14/03
Expiration Date	
Can Be Scheduled	<input checked="" type="checkbox"/>
Delivery Medium	Blended
Requires Discussion	<input type="checkbox"/>
Requires Chat	<input type="checkbox"/>

At the bottom of the form are four buttons: "Edit", "Delete", "Unregister", and "Copy".

From the Course Master Page you can:

- Edit the Master properties.
- Delete the Course Master from the Masters catalog.
- Click **Unregister** to remove the course from the Masters Catalog.
- Copy the Course Master to create a similar Course Master in the Masters Catalog.
- Add, modify, and remove course prerequisites.
- Add, modify, and remove activities that are scheduled in physical and virtual meeting places.

Updating the Course Master

Courses may be periodically updated to improve instruction, correct problems, or update content. In a classroom course, where courseware is not maintained online and progress is tracked and entered into the LMM manually, student materials can be modified and distributed as needed. Instead of updating a Course Master, administrators modify the properties of the Course Entry for a classroom-based course.

Online courses are launched from the LMS. When a Course Entry is created, the course is copied to the Delivery Server and HTTP server. Changes made to the courseware are made in the authoring tool and the course must be redeployed.

Update paths

Online courses are updated using authoring applications, including the authoring tool. The updated course is uploaded to the LMS where it can be registered as a Course Master. During this redeployment, if the course retains the same Package ID, LMS recognizes the course as an update.

There are two paths for updating an online course:

- **Update New Offerings** – The updated Course Master is used for course offerings that have not begun.
- **Update All Offerings** – The Course Master replaces the current courseware and is used for future course offerings.

The recommended method for upgrading a course is:

1. Retire the current offering. Disable enrollment to current offerings. This prevents new users from enrolling in and accessing the course.
2. Create and register a new Course Master.
3. Create a Course Entry for the new Course Master. Users can enroll only in the updated course.



Creating and Managing Course Offerings

The Offerings Catalog stores courses and course settings that are appropriate to the organization. The Offerings Catalog contains course offerings, which are available for enrollment either by the administrator or by self-enrollment

Lesson topics

This lesson presents the following topics:

- Creating a Course Entry
- Modifying a Course Entry
- Creating a course offering

Creating a Course Entry

When you create a Course Entry, you access the Course Master and specify course parameters that are specific to your organization. The Course Entry is stored in the Offerings Catalog, where it can be modified to add scheduled and non-scheduled offerings.



Create a Course Entry

Follow these instructions to create a Course Entry.

1. From the **Course Catalog** tab, click **Register Course Entry**.
2. Select **Course** and click **Continue**.
3. Enter a keyword to and click **Search**.

To search in the Masters Catalog sub folders, click the **Masters Catalog** link.

4. Select the course and click **Continue**.

Result: The **Course Details** screen displays. Fields in this form include:

- **Status** – available, draft, inactive.
- **Delivery Server** – selects the server where course manifest and structure are deployed.
- **Delivery Medium** – inherits settings made in the Course Master.
- **Is For Credit** – enables tracking.
- **Allows E-mail** – enables the instructor's e-mail for a course.
- **Allows Student E-mail** – enables students to e-mail other students in a course. The e-mail function displays in the Course Tools pane in the course user interface.

Enrollment – Enrollment fields include the following:

- **Enrollment Maximum** – After the maximum is reached, student names are placed on the Wait list, if a Wait List is used.
- **Enrollment Minimum** – Course offering is cancelled if this number is not reached.
- **Allow self-enrollment** – Students can view the course in the Student Catalog and enroll themselves.
- **Requires Manager Approval** – Enrollment request is posted to the LMS account of the user's manager (as defined in the LDAP directory).
- **Requires Approver Approval, Approver List** – Enrollment requests can be routed to any user. Select the **Requires Approver Approval** option and then select the user(s) who will be required to review all enrollment requests.

Note: If you select both Manager and Approver Approval, then one or the other has to occur.

Creating a Course Entry...*(continued)*

Create a Course Entry...

- **Has Wait List** – Enables feature that tracks students who try to enroll but cannot because the enrollment maximum has been reached. If an enrolled student is unenrolled, LMS automatically promotes the first person on the Wait List to enrolled status.
- **Requires Students Can Attend List, Student Attend List** – These fields are used to enable and then specify which users can be enrolled in the course.
- **Chat Server** – Select the IBM Lotus Sametime server that will provide instant messaging services to students.

Discussion

The following figure shows the **Discussion** section of the **Course Details** form.

Discussion

Use this Domino Discussion for all offerings.

Discussion Server

Title

File name

Create full-text index for searching

Designate a new Domino Discussion for each offering

Use this template

Use this URL as a Domino alternative for all offerings

Designate a new URL as a Domino alternative for each offering

Use this form to specify how discussion will be supported. Options are:

- Use this Domino discussion for all offerings.
 - Discussion Server – Click **Select** to choose the configured server that will support discussion
 - Title – Enter the title of the discussion.
 - File name – Enter the filename (*.nsf) of the Domino database that will be created.

Creating a Course Entry...*(continued)*

Create a Course Entry...

Discussion...

- Designate a new Domino Discussion for each offering – creates a separate Domino discussion database for each course offering.
 - Use this template – Select this and specify the master database that will be used to create all new discussion databases.
- Use this URL as a Domino alternative for all offerings – Select this and specify a Domino database that resides on a server that is not configured into the LMS.
- Designate a new URL as a Domino alternative for each offering – Use a different Domino discussion database, on a server that is not part of the LMS configuration.

Custom Field

- Add text and picklist. The field that is entered here is searchable and can be indexed. This field can be selected as criteria when running some reports.
5. When you complete this form, click **Continue**.
 6. Select the Course Offerings folder where the Course Entry will reside and click **Save**.

Modifying a Course Entry

You can modify the Course Entry to change course details. For example, you can change the course status from Draft to Active.



Modify a Course Entry

Follow these instructions to modify a Course Entry.

1. From the **Course Catalog** tab, click **Manage Offerings Catalog**.
2. Enter a keyword and click **Search**.

Result: The search results display, as shown in the example in the following figure.

Offerings Catalog
?

[Course Catalog](#) ▶ [Manage Offerings](#)

Browse Offerings Catalog

Browse the Offerings Catalog to find entries.

Keyword Search

[Advanced Search](#)

Search from current folder

[Offerings Catalog](#) ▶ [Offerings Catalog](#) ▶ [Sales](#)

[Create Folder](#)
1-1 ▼

Name	Description
Searching Inventory	This course teaches store personnel to use the Inventory Search application to search, order, and track current inventory.

1-1 ▼

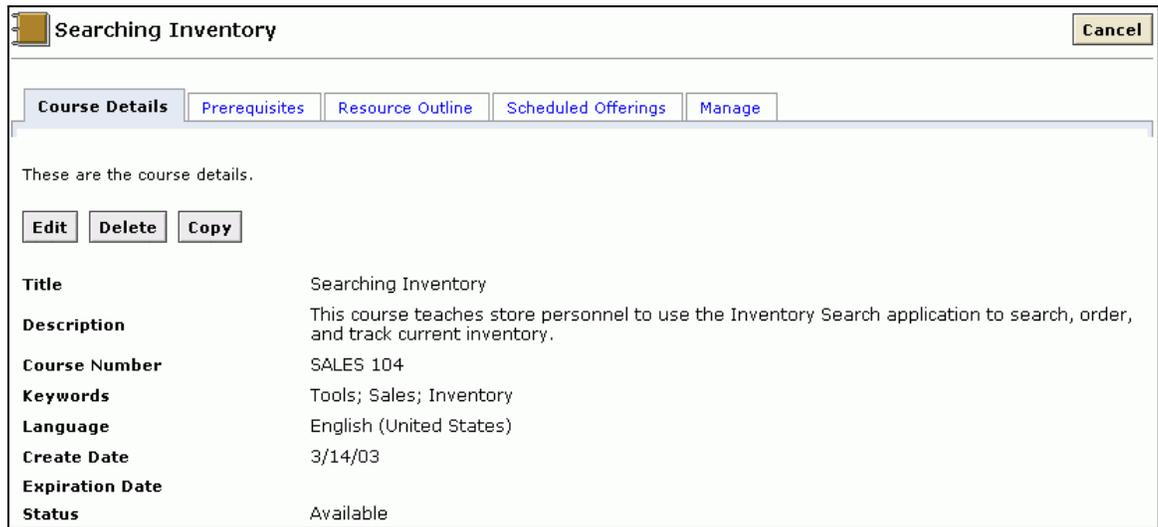
(continued on next page...)

Modifying a Course Entry...(continued)

Modify a Course Entry...

3. Click the icon next to the course title.

Result: The Course Entry displays. Entry details display on tabbed pages, as shown in the example in the figure below. (The figure below shows the top portion of the **Course Details** page.)



Searching Inventory		Cancel
Course Details Prerequisites Resource Outline Scheduled Offerings Manage		
These are the course details.		
Edit Delete Copy		
Title	Searching Inventory	
Description	This course teaches store personnel to use the Inventory Search application to search, order, and track current inventory.	
Course Number	SALES 104	
Keywords	Tools; Sales; Inventory	
Language	English (United States)	
Create Date	3/14/03	
Expiration Date		
Status	Available	

4. Click **Edit** to view and modify course details.
5. Click **Prerequisites** to view the course prerequisites. You cannot modify, add or remove prerequisites.
6. Click **Resource Outline** to view the physical and virtual classroom requirements. You cannot modify, add, or remove resources.
7. Click **Manage** to add or remove users who will have manager access of the course and course offerings.
8. Click Course Catalog to close the Course Entry and return to the Course Catalog.

Creating Course Offerings

After the Course Entry has been created, the course is saved to the Course Offerings Catalog. Administrators can create scheduled and non-scheduled course offerings.



Create a course offering

Follow these instructions to create a course offering.

1. From the **Course Catalog** tab, click **Manage Offerings Catalog**.
2. Enter a keyword and click **Search**.
3. Click the icon next to the course title to display the Course Entry.
4. Click the **Scheduled Offerings** tab.
5. Click **Schedule New Offering**.
6. Complete the offering details form, which includes these fields:
 - **Start Date, End Date** – Select dates when the course will begin and close.
 - **Start Registration Period, End Registration Period** – Select dates when the course will be available for enrollment.
 - **Instructors** – Search and select qualified instructor(s).
 - **Status** – Select offering status: available, draft, inactive.
 - **Discussion** – Select discussion template.
 - **Chat** – Specify the Sametime server that will be used for the offering.
7. Click **Find Location** to display the Select Location form:

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Creating Course Offerings...(continued)

Create a course offering

8. Enter search criteria, including a wildcard (*) and click **Search**.
9. Select a location from the resulting Search Results and click **OK**.

Result: The Location City, State, and Country fields are completed.

10. Scroll the form to display the resource bookings. If you entered booking requirements for physical or virtual classrooms, those will display. An example is included in the figure below.

Remove All Blocks		Add Booking Requirement	
Virtual Classroom		Delete Block	Add Resource
Title:*		Description:	Edit
Start Date:	Not Selected	Time:*	Not Selected
End Date:	Not Selected		
Primary Instructor:*	Not Selected		Select
Classroom		Delete Block	Add Resource
Title:*		Description:	Edit
Start Date:*	Not Selected	Time:*	Not Selected
End Date:	Not Selected		
Instructor:*	Not Selected		Select
Room:*	Not Selected		Select

11. Modify the requirements to specify dates, times, locations, and instructors. To do this, click the **Edit** and **Select** links that display in the right side of each booking section. These links are circled in the figure above.
12. Review the offerings form and click **Save**.

Creating Course Offerings...*(continued)*

Requesting resources

When you create an offering, you may be required to select an instructor and a classroom. These are considered resources and their schedules are managed using the resources tools in LMM.

Requesting a physical space

You can schedule a physical space, a classroom, lab, meeting room, or auditorium. These rooms are managed by a Room Contact. The **Room Contact** is a user who manages the room schedule and provides the required resources for a learning activity, for example, making sure there is a projector in the room when a class is scheduled to meet. The Room Contact is specified in the Resources module, in the LMM.

When you indicate in the Offerings form that you want to use a specified room, an e-mail is sent to the Room Contact to notify that person that you wish to schedule that resource. The room request is added to the resource calendar. If the room is currently reserved the discrepancy will be highlighted in the calendar. However, LMS will add the reservation to the calendar.

Requesting an instructor resource

Instructors are managed as a resource. When you add an instructor's name to the course offering, an e-mail is sent to the instructor and includes the offering details. If there is a scheduling conflict, the instructor will be scheduled, but the conflict will be highlighted in the calendar.

Create a Course Offering Exercise



Complete the task

Create a course offering for a classroom course that will meet three times.



Curricula and Certificates

Administrators can associate related courses into a curriculum. Students view and enroll in these courses, which are relevant to a topic or subject. Certificates provide a means of recognizing users who complete a curriculum.

Lesson topics

This lesson presents the following topics:

- Curricula
- Certificates

Curricula

A **curriculum** is a group of courses that provide training or instruction on a topic or related group of topics. When students enroll in a curriculum, the curriculum and all its courses display in the Curriculum view in the student's Home module. Students must enroll in each course offering.

Creating a curriculum is similar to creating a course. The administrator:

1. Creates a Curriculum Master and selects the courses that are included in the curriculum.
2. Creates a Curriculum Entry, which can be viewed in the Student Catalog. Curriculum offerings are not created.

Course groups

Within a curriculum, administrators use **course groups** to bundle courses and then specify how the student should select courses. For example, a student may be required to complete only one course in a course group.

The table below shows an example of a curriculum that uses course groups. The curriculum courses and groups are in the first column; the curriculum requirements are in the second column. In this example, the student is required to complete two of the three courses in Group A and one course from Group B. The curriculum contains eight courses, but the student is required to complete only five.

Courses	Students Must Complete the Following
■ Course A ■ Course B	■ Course A ■ Course B
■ Group A ■ Course C ■ Course D ■ Course E	Two courses from this group
■ Group B ■ Course F ■ Course G ■ Course H	One course from this group

When grouping courses, administrators can specify the order in which courses are available to the student.

Course groups cannot be used as prerequisites in version 1.

Certificates

Certification is confirmation of the successful completion of a curriculum. In the IBM Lotus Learning Management System, a **certificate** is a type of curriculum. Like a curriculum, a certificate also contains affiliated courses. The difference between a certificate and a curriculum is that a certificate can have an expiration date; recertification may be required.

If the IBM Lotus Discovery Server, a knowledge management application, is configured, the certificate award is automatically copied to the user's profile on that server.

Renewing certificates

A certificate can have an expiration date. As the expiration date approaches, the LMS automatically e-mails an expiration notification to the user. The notification is sent to the student 90, 30, and 7 days prior to expiration.

The student must log on to the LMM and click the **Renew** button to re-enroll in a certificate curriculum.

