

# Joomla as a Tool for Hybrid or Online Course Development

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# Objectives

- Create online photo gallery and image quizzes for West Gulf tree species (Dendrology)
  - Allow use for teaching and outreach
- Create online multimedia silviculture textbook to ‘flip’ the classroom
  - Allow use for teaching and outreach



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# Online Resources Appropriate? Survey

- Objective: ensure online resources will suit SFA forestry students prior to development
- In-class anonymous survey administered in dendrology Fall 2010 and Spring 2011
- N = 52



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# Survey Results: Computers

- 65% own or rent a laptop only
  - 8% own or rent a desktop only
  - 25% own or rent both
  - 98% own or rent a computer
- 
- 35% mainly use on-campus computer labs



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# Survey Results: Internet

- 94% have internet at home
- 46% have high-speed cable
- 31% have high-speed DSL
- 17% didn't know what type



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# Survey Results: Internet

- When asked how comfortable they were using computers and the internet:
  - 63% VERY COMFORTABLE
  - 35% SOMEWHAT COMFORTABLE
  - 2% VERY UNCOMFORTABLE



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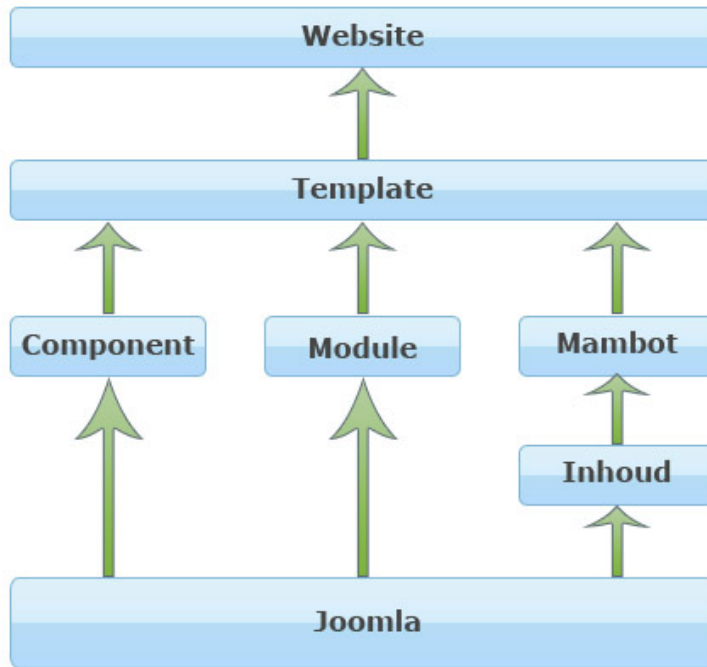
# Survey Synopsis

- They have computers with high-speed internet access, and are comfortable using them



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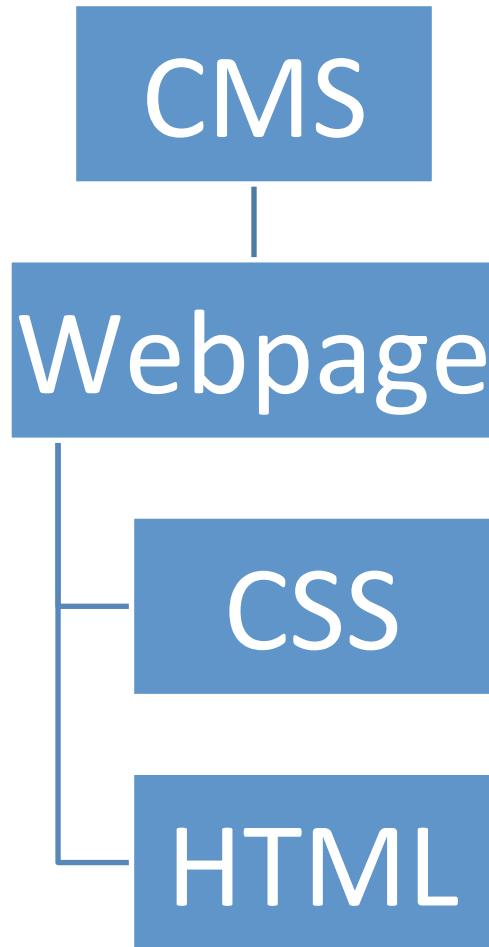




- Open source free-ware Content Management System
- PHP scripting language
- MySQL database language
- EVERYTHING stored in a database
- Graphical user interface



# Content Management System



- CMS: **C**ontent **M**anagement **S**ystem
- CSS: **C**ascading **S**tyle **S**heets
- HTML: **H**yper**T**ext **M**arkup **L**anguage



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# Joomla Interface

The screenshot shows the Joomla! administrator interface for the website 'Dendrology at Stephen F. Austin State University'. The browser window is Firefox, and the URL is 'forestry.sfasu.edu/faculty/jstovall/dendro/administrator/index.php'. The Joomla! logo and site name are at the top left, and the version '1.5.20' is at the top right. A navigation menu includes Site, Menus, Content, Components, Extensions, Tools, and Help. The main content area features a grid of management tools: Add New Article, Article Manager, Front Page Manager, Section Manager, Category Manager, Media Manager, Menu Manager, Language Manager, User Manager, Global Configuration, and Backup required! (with a warning icon). On the right, a 'Logged in Users' table shows one user: 'admin' (Super Administrator) with a last activity of '0.0 hours ago'. Below the table are links for Popular, Recent added Articles, and Menu Stats. At the bottom, a license notice states: 'Joomla! is Free Software released under the GNU/GPL License.'

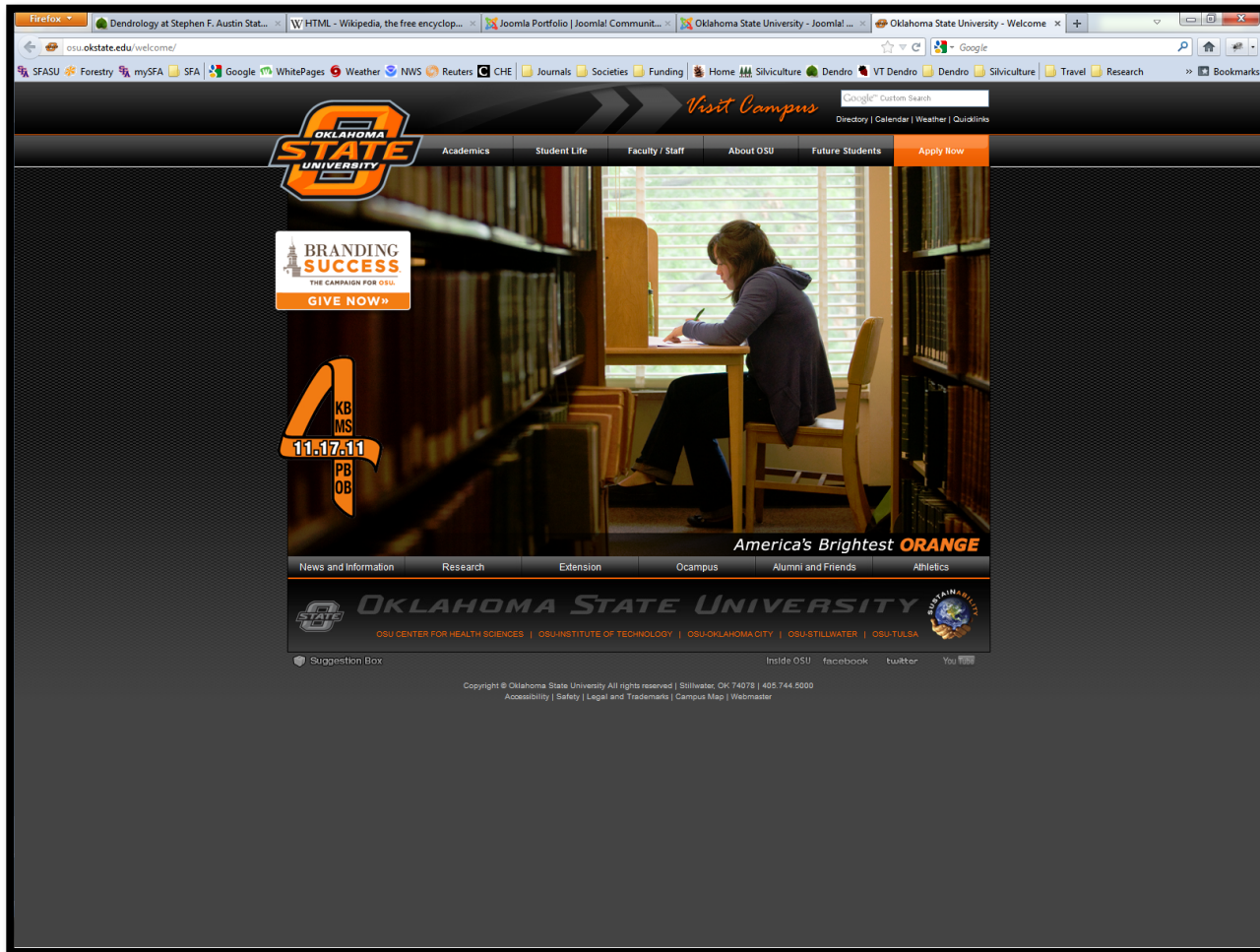
#	Name	Group	Client	Last Activity	Logout
1	admin	Super Administrator	administrator	0.0 hours ago	



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# Joomla Examples



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# Joomla Examples



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# Joomla Examples

The screenshot shows a Joomla website titled "Dendrology at Stephen F. Austin State University". The browser address bar is "forestry.sfasu.edu/faculty/jstovall/dendro/". The website has a navigation menu with items like "Dendro Home", "FOR 219 Dendrology", "Tree Identification", "Quizzes", "SFA Dendrocaching", "Links", "Print Resources", "Contact Me", and "About". A search bar is located in the top right. The main content area is divided into several modules:

- PHOTO FACT SHEETS**: A module with a tree trunk image and a link to "Photo Fact Sheets".
- INTERACTIVE QUIZZES**: A module with a magnifying glass icon and a link to "Interactive Quizzes".
- MORPHOLOGY PHOTO GLOSSARY**: A module with a flower image and a link to "Morphology Photo Glossary".
- EASYID**: A module with a tree bud image and a link to "EasyID".
- RESOURCE LISTS**: A module with a book image and a link to "Resource Lists".

On the right side, there is a "MOST VIEWED" list with items like "Fagaceae Castanea mollissima - Chinese chestnut (Lab. 11)", "Mimosaceae Mimosa aurifolia - laurel greenbrier (Lab. 4)", "Family Quiz", "Mimosaceae Liriodendron tulipifera - yellow-poplar (Lab. 01)", and "Rosaceae Pyrus callerrana - Callery pear (Lab. 11)". Below this is a "SITE STATISTICS" section showing "Members: 296", "Content: 331", and "Web Links: 61". At the bottom right, there is a logo for "STEPHEN F. AUSTIN STATE UNIVERSITY" and a map of Texas with "SFA" overlaid.

At the bottom of the page, there is a footer with the text: "Contact Dr. Stovall | SFA Forestry | About | Dr. Stovall's Homepage".



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# Joomla Examples

The screenshot shows a Joomla website titled "Silviculture at Stephen F. Austin State University". The browser address bar shows the URL "forestry.sfasu.edu/faculty/jstovall/silviculture/". The website features a main banner image of a forest with workers in hard hats. Below the banner is a navigation menu with items like "Silviculture Home", "FOR 347: Silviculture", "Case Studies", "Links", "Print Resources", "Contact Me", and "About". A search box is located in the top right. The main content area is divided into three columns. The left column contains a "SILVICULTURE STUDENT LOGIN" form with fields for "Username" and "Password", a "Remember Me" checkbox, and a "Login" button. Below the form are links for "Forgot your password?", "Forgot your username?", and "Create an account". The middle column has a heading "Welcome to Your Resource for Silviculture in East Texas & The Southeastern US" and a section for "Online Silviculture Textbook" with a description and a small image. Below that is a section for "Silviculture Case Studies" with a description and a small image. The right column contains a "MOST VIEWED" section with links to "Homepage", "Forest Biology Review", "Background and Introduction", "About", and "Intermediate Treatments". Below that is a "SITE STATISTICS" section showing "Members: 57", "Content: 78", "Web Links: 17", and "Content View Hits: 216282". At the bottom of the right column is the logo for "STEPHEN F. AUSTIN STATE UNIVERSITY" and "ARTHUR TEMPLE COLLEGE OF FORESTRY AND AGRICULTURE". The footer of the website includes the text "Design by Next Level Design / Provided By Free Joomla Templates | Freshthemes4all.com" and logos for "W3C XHTML 3.0" and "W3C CSS".



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# Joomla Backend Interface

The screenshot shows the Joomla! administrator interface in a Firefox browser window. The address bar displays the URL: forestry.sfasu.edu/faculty/jstovall/dendro/administrator/index.php. The page title is "Joomla! Dendrology at Stephen F. Austin State University" with the version number "Version 1.5.20" in the top right corner. A navigation menu includes Site, Menus, Content, Components, Extensions, Tools, and Help. The main content area features a grid of management tools: Add New Article, Article Manager, Front Page Manager, Section Manager, Category Manager, Media Manager, Menu Manager, Language Manager, User Manager, Global Configuration, and a "Backup required!" warning. On the right, a "Logged in Users" table shows one active user: #1, Name: admin, Group: Super Administrator, Client: administrator, Last Activity: 0.0 hours ago. Below the table are expandable sections for Popular, Recent added Articles, and Menu Stats. A footer note states: Joomla! is Free Software released under the GNU/GPL License.

#	Name	Group	Client	Last Activity	Logout
1	admin	Super Administrator	administrator	0.0 hours ago	



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# Joomla Backend Interface

The screenshot displays the Joomla! Backend Article Manager interface. The page title is "Dendrology at Stephen F. Austin State University". The interface includes a navigation menu at the top with options like Site, Menus, Content, Components, Extensions, Tools, and Help. Below the menu is the "Article Manager" section, which contains a toolbar with icons for Unarchive, Archive, Publish, Unpublish, Move, Copy, Trash, Edit, New, Parameters, and Help. A filter box is located above the article list. The main content area shows a table of 29 articles, each with a unique ID and a title describing a plant species and its associated lab. The table columns are: #, Title, Published, Front Page, Order, Access Level, Section, Category, Author, Date, and Hits. The "Published" column contains green checkmarks, and the "Front Page" column contains red circles with white exclamation marks. The "Order" column contains numerical values, and the "Access Level" column contains the word "Public". The "Section" column contains "Tree Identification", and the "Category" column contains "Photo Fact Sheets". The "Author" column contains "Dr. Jeremy Stovall", and the "Date" column contains various dates. The "Hits" column contains numerical values.

#	Title	Published	Front Page	Order	Access Level	Section	Category	Author	Date	Hits	ID
1	Aceraceae Acer barbatum - Florida maple (Lab 01)	✓	⊗	165	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	10886	59
2	Aceraceae Acer negundo - boxelder (Lab 8)	✓	⊗	2	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	258	477
3	Aceraceae Acer palmatum - Japanese maple (Lab 11)	✓	⊗	74	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	29.09.10	16533	272
4	Aceraceae Acer rubrum - red maple (Lab 01)	✓	⊗	135	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10521	92
5	Aceraceae Acer saccharinum - silver maple	✓	⊗	123	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	9999	104
6	Aceraceae Acer saccharum - sugar maple	✓	⊗	112	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10079	116
7	Agavaceae Yucca louisianensis - Louisiana yucca (Lab 6)	✓	⊗	43	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	10.11.10	9305	344
8	Anacardiaceae Pistacia chinensis - Chinese pistache (Lab 11)	✓	⊗	13	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	29.06.11	3105	441
9	Anacardiaceae Rhus aromatica - fragrant sumac (Lab 6)	✓	⊗	163	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	10002	61
10	Anacardiaceae Rhus copallinum - winged sumac (Lab 10)	✓	⊗	127	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10796	100
11	Anacardiaceae Rhus glabra - smooth sumac (Lab 10)	✓	⊗	126	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10075	101
12	Anacardiaceae Toxicodendron radicans - poison-ivy (Lab 01)	✓	⊗	142	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10187	84
13	Anacardiaceae Toxicodendron vernix - poison sumac (Lab 7)	✓	⊗	141	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10305	85
14	Annonaceae Asimina parviflora - dwarf pawpaw (Lab 7)	✓	⊗	168	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	10013	56
15	Annonaceae Asimina triloba - pawpaw (Lab 10)	✓	⊗	146	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10184	80
16	Apocynaceae Trachelospermum difforme - climbing dogbane (Lab 9)	✓	⊗	52	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	27.10.10	14210	324
17	Aquifoliaceae Ilex coriacea - tall galberry holly (Lab 5)	✓	⊗	28	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	11.04.11	5101	416
18	Aquifoliaceae Ilex decidua - possumhaw (Lab 3)	✓	⊗	208	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	7129	15
19	Aquifoliaceae Ilex opaca - American holly (Lab 5)	✓	⊗	80	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	22.09.10	16389	254
20	Aquifoliaceae Ilex vomitoria - yaupon (Lab 3)	✓	⊗	79	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	22.09.10	16128	255
21	Araceae Arisaema triphyllum - jack-in-the-pulpit	✓	⊗	16	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	29.06.11	8401	438
22	Araliaceae Aralia spinosa - devil's walkingstick (Lab 5)	✓	⊗	169	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	9999	55
23	Araliaceae Hedera helix - English ivy	✓	⊗	10	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	29.06.11	8369	444
24	Arecaceae Sabal minor - dwarf palmetto (Lab 9)	✓	⊗	51	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	27.10.10	9224	325
25	Asteraceae Baccharis halimifolia - eastern baccharis (Lab 12)	✓	⊗	167	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	19.08.10	9962	57
26	Berberidaceae Nandina domestica - sacred bamboo (Lab 11)	✓	⊗	78	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	22.09.10	9861	256
27	Berberidaceae Podophyllum peltatum - mayapple	✓	⊗	15	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	29.06.11	8372	439
28	Betulaceae Alnus serrulata - hazel alder (Lab 7)	✓	⊗	159	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10489	85
29	Betulaceae Betula nigra - river birch (Lab 01)	✓	⊗	133	Public	Tree Identification	Photo Fact Sheets	Dr. Jeremy Stovall	23.08.10	10480	94



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# Joomla Backend Interface

The screenshot displays the Joomla! Backend Interface for editing an article. The browser window shows the URL: `forestry.sfasu.edu/faculty/jstovall/dendro/administrator/index.php?option=com_content&sectionid=-1&task=edit&cid[]=477`. The Joomla! header includes the site name "Dendrology at Stephen F. Austin State University" and version "1.5.20".

The main editing area is titled "Article: [Edit]" and contains the following fields:

- Title:** Aceraceae Acer negundo - boxelder (Lab 8)
- Alias:** acer-negundo-boxelder
- Section:** Tree Identification
- Published:**  No  Yes
- Front Page:**  No  Yes
- Category:** Photo Fact Sheets

The article metadata on the right side shows:

- Article ID:** 477
- State:** Published
- Hits:** 258 (Reset)
- Revised:** 0 Times
- Created:** Thursday, 19 August 2010 13:17
- Modified:** Thursday, 19 January 2012 11:26

The "Parameters (Article)" section includes:

- Author:** Dr. Jeremy Stovall
- Author Alias:**
- Access Level:** Public
- Created Date:** 2010-08-19 13:17:10
- Start Publishing:** 2010-08-19 13:17:10
- Finish Publishing:** Never

The main content area contains a text editor with a toolbar and a message: "Some images are cropped in thumbnal view. Click images to see uncropped versions at full resolution (up to 2000 x 3000 pixel). {gallery}/images/tree\_photos/acernegu,root=1{/gallery}"

At the bottom, there are buttons for "Image", "Pagebreak", "Read more...", "Link", "SIGE Parameters", and "Toggle editor".



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# Joomla Output

The screenshot shows a Joomla website interface. At the top, there's a navigation bar with the title "Dendrology at Stephen F. Austin State University" and a breadcrumb trail: "Dendro Home • Tree Identification • Photo Fact Sheets • Aceraceae Acer negundo - boxelder (Lab 8)".

The main content area is titled "Aceraceae Acer negundo - boxelder (Lab 8)" and includes a date "Thursday, 19 August 2010 13:17". Below the title, there's a note: "Some images are cropped in thumbnail view. Click images to see uncropped versions at full resolution (up to 2000 x 3000 pixel)." There are four thumbnail images of tree bark and leaves.

On the left side, there's a navigation menu with the following items: "DENDROLOGY AT SFA", "Dendro Home", "FOR 219 Dendrology", "Tree Identification" (highlighted), "Photo Fact Sheets", "Morphology Glossary", "EasyID", "Quizzes", "SFA Dendrocaching", "Links", "Print Resources", "Contact Me", and "About".

Below the menu is a "PHOTO FACT SHEETS" section with a small image of a tree branch. At the bottom left, there's a "DENDRO STUDENT LOGIN" form with fields for "Username", "Password", a "Remember Me" checkbox, a "Login" button, and a "Forgot your password?" link.

On the right side, there's a "SEARCH" bar with the text "search...". Below it, there's a "MOST VIEWED" section listing several items with their respective categories and lab numbers. At the bottom right, there's a "SITE STATISTICS" section showing "Members : 296", "Content : 331", and "Web Links : 61". Below the statistics is the logo for "ARTHUR TEMPLE COLLEGE OF FORESTRY AND AGRICULTURE" and the "STEPHEN F. AUSTIN STATE UNIVERSITY" logo.



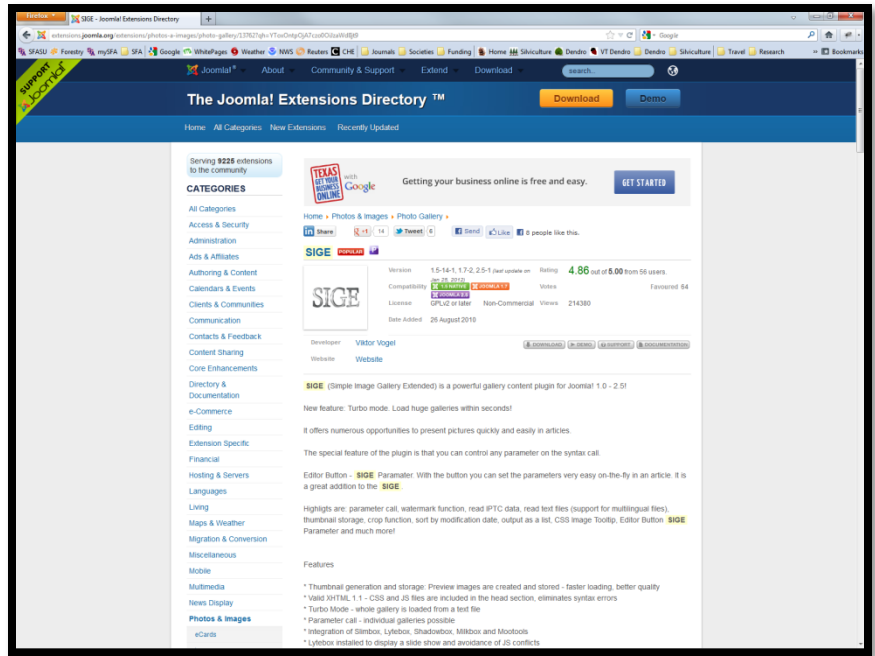
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# Joomla Extensions

- Extends capabilities
- Most free, some \$\$\$
  
- Photo galleries
- Quizzes, surveys
- Gradebooks
- LMS

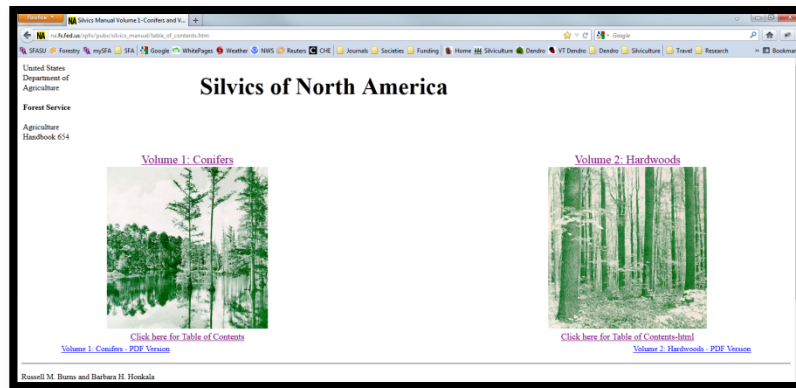
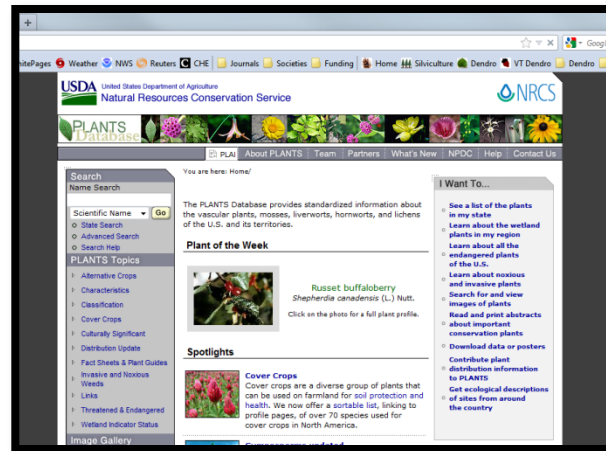


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# Joomla in Class: Dendro Example

- Link to resources
- Teach how to use



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# Joomla as Study Tool / Outreach Resource

The screenshot shows a Joomla website titled "Dendrology at Stephen F. Austin State University". The page is for "Aceraceae Acer negundo - boxelder (Lab 8)". The main content area features four photographs: a close-up of a green stem with a horizontal lenticel, a close-up of rough, furrowed bark, a close-up of a tree trunk with a lenticel, and a close-up of a winged seed (samarra). The page includes a navigation menu on the left with options like "Dendro Home", "Tree Identification", "Photo Fact Sheets", "Morphology Glossary", "EasyID", "Quizzes", "SFA Dendrocaching", "Links", "Print Resources", "Contact Me", and "About". A search bar is located in the top right. A "MOST VIEWED" section lists various plant families and species. A "SITE STATISTICS" section shows "Members: 286", "Content: 331", and "Web Links: 61". A "DENDRO STUDENT LOGIN" form is at the bottom left, with fields for "Username", "Password", and a "Remember Me" checkbox, along with a "Login" button and a link to "Forgot your password?".



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# Joomla Before Class: Silviculture Example

The screenshot shows a Joomla website titled "Silviculture at Stephen F. Austin State University". The browser address bar indicates the URL is [forestry.sfasu.edu/faculty/jstovall/silviculture/index.php/for-347/quizzes/quiz/58](http://forestry.sfasu.edu/faculty/jstovall/silviculture/index.php/for-347/quizzes/quiz/58). The page layout includes a main menu on the left with items like "Silviculture Home", "FOR 347: Silviculture", "Course Documents", "Lab Documents", "Quizzes", "Grades", "Case Studies", "Links", "Print Resources", "Contact Me", and "About". A "Silviculture Student Login" section is also present with a "Log out" button. The main content area displays "Quiz 7" with a timer showing "Time remaining 00:29:55". The quiz questions are:

- Were there any parts of the reading you did not understand? Any parts you had difficulty with? Please include any questions you have relevant to the reading.
- To receive credit if you do not have a question, tell me instead how some part of the reading affected how you think about silviculture. What in the reading changed your perspective?
- Compare and contrast the effects of thinning on growth at the individual tree and stand scales.
- From what you learned about respiration in this reading and the previous discussions, why do we tend to see greater standing biomass in temperate forests when compared to tropical forests?
- Compare and contrast the concepts of stocking and relative density. Who defines what a well stocked stand is? Who defines what a stand with high relative density is?
- What are the objectives of a crown thinning? What type of stands might you apply a crown thinning to? What different management goals might a crown thinning help you achieve?

At the bottom of the quiz section, there is a note: "The d/D ratio is the average dbh of trees removed by thinning (d) to the quadratic mean diameter prior to thinning. Examine Figure 5.12 on page 119. For the crown thinning shown, is the d/D ratio greater than, less than, or approximately equal to 1? Explain."

On the right side of the page, there is a search bar and a "Most Viewed" section listing links like "Homepage", "Course Schedule and Reading", "Background and Introduction", "Forest Biology Review", and "About". Below this is a "Site Statistics" section showing "Members: 57", "Content: 78", "Web Links: 17", and "Content View Hits: 216228". The footer of the page features the Stephen F. Austin State University logo and the text "STEPHEN F. AUSTIN STATE UNIVERSITY".



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# Joomla Pros

- You are in control
- Very flexible
- Outreach and teaching
- Many free or cheap extensions
- Steep learning curve, but easy maintenance



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# Joomla Cons

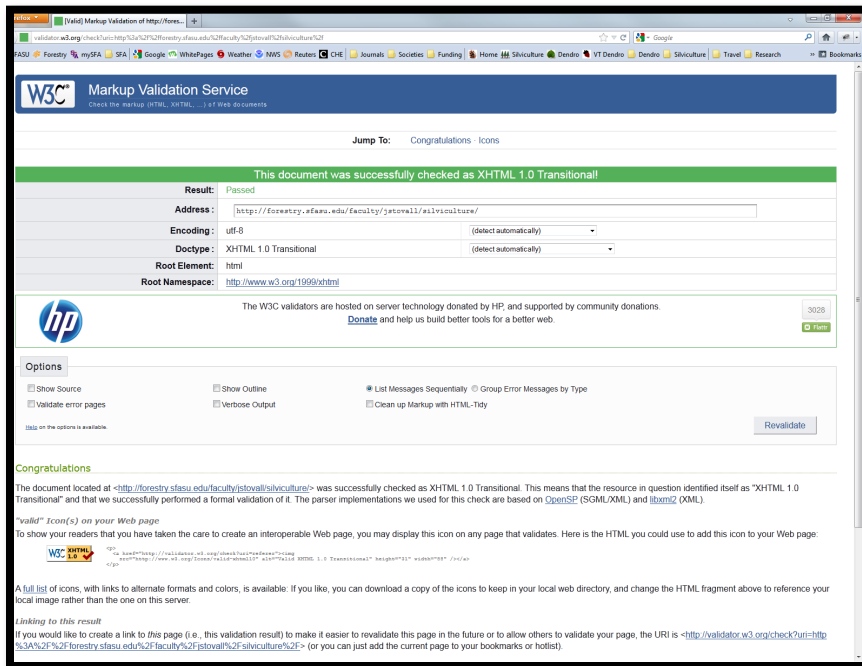
- Need HTML, CSS experience
- Support is hit or miss
- Foreign language documentation
- FERPA constraints?
- Copyright issues?
- ADA requirements?



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# ADA Compliance



The screenshot shows the W3C Markup Validation Service interface. The main heading reads "This document was successfully checked as XHTML 1.0 Transitional!". Below this, a table lists the validation details: Result (Passed), Address (http://forestry.sfasu.edu/faculty/stovall/silviculture/), Encoding (utf-8), Doctype (XHTML 1.0 Transitional), Root Element (html), and Root Namespace (http://www.w3.org/1999/xhtml). The HP logo is present with a note that the validators are hosted on server technology donated by HP. There are options for displaying source, errors, and messages. A "Congratulations" section at the bottom provides a link to the validation result and a code snippet for displaying the W3C icon on a web page.



**Caprifoliaceae Viburnum dentatum - arrowwood viburnum: Fruits, drupes, bluish black, clustered.**



**Caprifoliaceae Viburnum dentatum - arrowwood viburnum: Leaves, opposite, simple, deltoid to orbicular in shape, coarsely toothed, often fuzzy.**



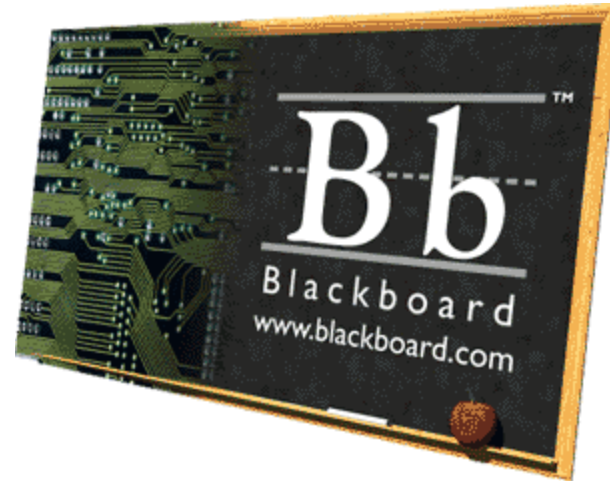
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# Joomla vs. LMS

- Bookkeeping
- Quizzes
- Access
- Class size
- Outreach



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# Questions

- Email: [stovalljp@sfasu.edu](mailto:stovalljp@sfasu.edu)
- Joomla websites:
  - Dendrology:  
<http://forestry.sfasu.edu/faculty/jstovall/dendro/>
  - Homepage:  
<http://forestry.sfasu.edu/faculty/jstovall/home/>



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