

# Drupal Website Design Curriculum

## Curriculum Materials

The STEM Fuse Drupal Website Design Curriculum is an 18-week website design curriculum developed for high school level (grade 9-12) students. The curriculum adheres closely to the [ISTE-CSE](#) standards. The curriculum comes complete with everything needed to teach an introductory and hands-on website design class. The curriculum contains the following resources:

- 5 fully teachable units that introduce and build upon core website design and development skills
- 4 individual website design projects using the following types of educational materials:
  - Presentations
  - Videos
  - Worksheets
  - Assessments
- College and Career exploration section
- Final group website project implementing the software development lifecycle and focusing on core website design and development principles

## Supplemental Materials

The course references and uses supplemental materials to enhance the learning experience:

- Drupal website as a research tool for building websites - <http://drupal.org>
- Acquia training materials for additional hands-on website development lessons with Drupal - <https://training.acquia.com/>
- BuildAModule website for comprehensive supplemental video tutorials - <http://buildamodule.com>

## Course Purpose

This curriculum takes a multi-faceted approach that teaches core website development skills while still providing practical web design activities. This allows a student to learn about the development and design process of building a website. The curriculum focuses heavily on developing student problem-solving skills teaching students how to analyze and solve their own website development problems. The goal of the course is to teach applicable and current website design and development skills to students so they can be used in and out of the classroom.

Group collaboration is another focus area of the curriculum. The curriculum provides a comprehensive group final project that allows students to work in teams to create a unique website. Team members are able to choose specific responsibilities within the team such as project manager, designer, site builder/developer, and content marketer. The team will also build individual and group presentation skills with a presentation of their final project.

This curriculum is intended to introduce students to web design and development skills and inspire interested students to further their learning. Students will be better prepared for the following:

- Career readiness - students will be more prepared to enter career fields relating to website design and website development
- Improved presentations skills
- Pursue related college degrees and courses in digital arts, media, design, computer science, and engineering
- Advanced website design and development training

## Curriculum Outline

### Unit 1 - First Drupal Website

The first unit walks students step by step through building their first Drupal website. The first website is a simplified website that teaches many of the hands-on procedural tasks that are common during most website projects. The students will also learn the history of the Internet and website design/development. The basics of the technology behind website design and development is also covered. Students will be introduced to the basics of Drupal by using the Drupal Gardens service.

#### Week 1

- First Website Project
  - Develop a basic website by following step by step instructions.
  - This project will be referred to in future sections allowing students to see first-hand examples of how various technologies are implemented in the development of a website.
  - Teaches students the basics of developing websites in Drupal such as:
    - Building basic pages
    - Creating links and menu items
    - Adding images and an image slideshow
    - Building a contact form
    - Creating a Blog
    - Changing the look and design of the website
    - Website Structure with Blocks
    - Website administration
    - Manage website users and permissions
    - Adding and removing different features with Drupal modules

#### Week 2 - 3

- Website History
  - Covers the history of the Internet and where it is heading in the future.
  - Discusses mobile and tablet Internet trends.
- How does a website work?
  - Examining a typical page request
  - What are databases and how are they used within a website?
- Web Standards and accessibility

- Cross-browser support
- Responsive and mobile design introduction
- What is a Content Management System (CMS)
  - Teaches students what a CMS is and why it is so popular when building websites.
  - Students learn about programming languages and how a CMS uses the programming language.
  - Discusses the use of Databases and how that fits into a CMS architecture.
  - Discusses how a CMS outputs HTML and CSS and how this controls the layout and design of a website.
  - A look at popular CMS options that are available
- Open Source Software and Drupal
  - What is Open Source Software and why is it important?
  - What is Drupal?
    - The technology behind Drupal
    - Where is Drupal used?
    - The Drupal Community - learning from others and sharing knowledge
- College and Career exploration
  - Students will learn about available college and career programs that are related to website design and development
- Website intellectual property and ethics
  - Students will learn about trademarks, copyrights, patents, creative commons and other professional items to make them better prepared for careers in website development.
- Unit 1 Review
- Unit 1 Assessment

## Unit 2 - HTML and CSS

The second unit introduces the core technologies that power any website, HTML and CSS. Students will not only learn what these technologies are, they will also learn how to write their own HTML, and CSS code. Students will explore how these technologies are used on existing live websites that they visit.

### Week 4-5

- Introduction to HTML
  - Learn basic HTML tags and what they do
- Introduction to CSS
  - Learn basic CSS commands and what they do
- Building a simple HTML and CSS site
  - Students will build a very simple website with a few pages using HTML and CSS.
- Unit 2 Review
- Unit 2 Assessment

## Unit 3 - Drupal 7 Website Project

Unit 3 is where the rubber meets the road. Students will begin learning the core concepts that make up a Drupal website. They already have a good underlying framework of knowledge and are ready to take that knowledge to the next level. In this unit, the students will begin learning how to extend the capabilities of their Drupal website, how to add additional pieces of functionality, and even how to get a full Drupal website up and running. Students will also explore various case studies to help them understand the website design and development process.

### Week 6-9

- Drupal Environment Setup and Overview
  - Importing Drupal Gardens website to Acquia Cloud
  - Creating a new Drupal 7 website on Acquia Cloud
- Drupal 7 Website Project
  - Project Introduction and Mockup review
  - Creating and editing content
  - Menus, Modules, and Webforms
  - Building blocks with Drupal Content Types and Fields
  - Structuring content for display using Drupal Views
  - Works with Dates
  - Categorizing Content
  - Referencing other content
  - Working with blocks and the Drupal permission system
  - Configuring text formats
  - Configuring and using image styles
  - Setting up a Wysiwyg text editor
  - Working with CSS within Drupal
  - Extending Drupal with additional Modules
  - Using Drupal.org effectively for research, finding solutions, and getting help
- Unit 3 Review
- Unit 3 Assessment

## Unit 4 - Case Studies and Real World Examples

In unit 4, students will go through a list of sample projects or case studies. The student will not actually build all of these projects but will explore and learn about different methods of completing various types of website projects. This exploration section will better prepare students to develop websites of their own and complete more advanced and complicated website projects.

### Week 10

- Structure of Drupal.org Case Studies with an example
- Ecommerce Website Case Study and worksheet
- Entertainment Website Case Study and worksheet

- Website Case Study and worksheet (student's choice)
- Drupal.org overview and tools
- Build your own (mock) case study - Student's go through the motions of outlining a mock Drupal website and documenting out their decision-making process
- Unit 4 Review
- Unit 4 Assessment

## Unit 5 - Final Project

The fifth and final unit will allow students to spend more time being creative and building their own unique website. Students will work in small groups to plan, design, and develop a working Drupal website. Students will learn about the software development lifecycle and will immediately apply this knowledge to their final project.

### Week 11

- Final project requirements and teams
- Learn about the Software Development Lifecycle
- Develop team project responsibilities
- Create a project plan
- Analyze necessary features and modules for project

### Week 12-15

- Design and develop the final project based on project requirements and team's project plan

### Week 16

- Final Project Presentations