



**BETHLEHEM AREA VOCATIONAL-TECHNICAL
SCHOOL**
3300 CHESTER AVENUE BETHLEHEM PA 18020

WEB DESIGN & ANIMATION
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WEB DESIGN & ANIMATION

Course Description:

The Web Design & Animation class is a three-year program at Bethlehem AVTS. In the first year, students learn the fundamentals of Digital Color, Typography, and Digital Design through an assortment of hands-on activities. Students also learn the basics of Digital Imaging (digital photography and Photoshop), Digital Illustration (Illustrator), and Animation (Introduction to Flash).

Students in the advanced section of the course learn animation and web design more in-depth. Students learn Flash Interactivity, Motion Typography, Flash Sound, Flash Video & 3D, Character Animation, how to create Flash Games, and Advanced Flash & Lightwave (3d modeling program). Students create a website, educational game, or multimedia animation each year to submit to the PA Computer Fair.

Students who wish to continue in this field should continue their education at a two or four year college. Software manufacturers such as Adobe offer certifications, however they are at the professional/educator level. It is rare that a student could “join the workforce” straight out of high school in this field, but it is possible through traditional job shadowing and internship opportunities that could lead to entry-level employment.

The Internet is a mainstay in society (with expected job growth by nearly 20% over the next decade). More businesses-and customers-are going online every day. Advances in technology will make Web skills an ongoing corporate need. Two industries worth singling out for opportunities are Internet Service Providers (ISPs) and Internet consulting firms. In addition, there exist many small web-design shops, each specializing in a different industry. Traditional advertising, marketing, and PR companies are also heavily involved in Internet work. In addition, graphic design studios have combined website design with their traditional creative services offerings.

Many large companies keep their website activities in-house. The advent of intranets, or company-specific HTML-based networks, means the web-savvy individuals are needed in every department to create and maintain each division's information site within the overall corporate 'Net. Most relatively large companies, and certainly all companies involved in high tech or the media, have full-blown teams to handle their websites. Determining where you might fit into such a team will help focus your career preparation and narrow your job search.

Finally, many web designers work as independent contractors, serving smaller companies that don't want to hire a full-time Web staff, but still want to have ongoing control of their sites' content, and sometimes providing consulting services to larger companies. Independent web designers generally telecommute from home, where all they need is a computer, a scanner, and a good connection to the Internet.

As a web developer, you will create websites targeted to reach a specific audience. You will create your client's message so it is delivered attractively and efficiently. Since almost every company has a website these days, employment opportunities should be good over the next decade.

In demand careers: Web Graphic Designer, Web Designer, Multimedia Web Designer, Animator, 3D animator, Digital Imager.

Reference Material:

Site Point Book and PDF series

Lynda.com video tutorial series

Adobe Classroom in a book series (Dreamweaver, Illustrator, Photoshop, Flash)

Adobe Digital Classroom series (Dreamweaver, Illustrator, Photoshop, Flash)

Pixar: The Making of Company

The Art of Digital Branding

Classroom Tools:

Apple I-Mac computers

Adobe Create Suite (Photoshop, Illustrator, Dreamweaver, Flash)

Microsoft Office for Mac (Word, Excel)

Remote desktop

Garage Band

IPhoto

Color Printer

Scanner

Digital Camera

Basic Layout Tools (paper, pencil, colored pencils/markers, rulers)

Display Boards

Course Syllabus Level 1

First Semester (First Marking Period)

Career Exploration:

Projects:

Logo
Basic Photoshop / Photo Editing
Navigation keys and links
Contact form
Webpage layout
Basic web animation
Basic Flash video controls
Portfolio of class work

Duty and Tasks Covered:

000001 Career Exploration:

000001 Demonstrate the ability to create a basic website
000002 Demonstrate the ability to create basic Flash animations
000003 Explore career options in Web Design & Animation

Career Exploration Outcomes: Students can make an informed decision about the Web Design & Animation class and as a possible career choice.

First Semester (Second Marking Period)

Color, Design and Typography:

Projects:

Color Wheel
Value scale
Design a webpage with color schemes
Understanding the difference between computer and print color systems
Demonstrate an understanding of Typography terms
Design a logo with type
Design a layout plan for your website with type
Demonstrate an ability to use advanced type tools

Duty and Tasks Covered:

000002 Digital Color:

000001 Create a 12 step color wheel
000002 Create a value scale

000003 Demonstrate an understanding of color systems

000003 Digital Design:

000001 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000001 Demonstrate the ability to create digital typography effects

000002 Demonstrate an understanding of basic typography

Second Semester (Third Marking Period)

Digital Design 1 (Photoshop):

Projects:

Getting to know the work area (Basic photo editing)

Working with selections (Making a “fruithead”)

Working with layer basics (Online ad)

Working with type (Creating an online ad for a movie)

Creating a vector drawing in Photoshop (logo)

Preparing files for the web (Create a layout for your website)

Working with 3D images

Creating navigation buttons for your website

Create a basic animation in Photoshop

Duty and Tasks Covered:

000002 Digital Color:

000003 Demonstrate an understanding of color systems

000003 Digital Design:

000001 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000001 Demonstrate the ability to create digital typography effects

000002 Demonstrate and understanding of basic typography concepts

000005 Adobe Photoshop:

000001 Demonstrate an understanding of Photoshop tools and functions

000002 Demonstrate an understanding of Photoshop layer and filter effects

Second Semester (Fourth Marking Period)

Digital Design II (Illustrator):

Projects:

- Getting to know the work area (Basic tools exercise)
- Create a live tracing of a photo for a logo
- Create and edit basic shapes (logo, navigation buttons)
- Create a business card for your company
- Create a letterhead for your company
- Create an envelope for your company
- Using the pen and pencil tools in an image (step by step illustration for your website)
- Demonstrate an understanding of the type tool
- Demonstrate and understanding of perspective (city skyline for an animation)
- Create basic shapes and colors (cylinders, boxes, cubes)
- Working with 3D objects
- Working with the Illustrator workspace to create a web workspace

Duty and Tasks Covered:

000002 Digital Color:

- 000003 Demonstrate and understanding of color systems

000003 Digital Design:

- 000001 Demonstrate and understanding of the elements and principles of design

000004 Digital Typography:

- 000001 Demonstrate the ability to create digital typography effects
- 000002 Demonstrate an understanding of basic typography concepts

000006 Adobe Illustrator:

- 000001 Demonstrate an understanding of Illustrator tools and functions
- 000002 Demonstrate an understanding of Illustrator layer and filter effects

Level 1 Outcomes: Completed personal website and portfolio review

Course Syllabus Level 2:

First Semester (First Marking Period)

Multimedia Design 1

Projects:

Creating Flash navigation:

- Navigation buttons

- Rollover buttons

- Rollover animated buttons

- Pull down menus

- Animated pull down menus

Determining movie clip collisions

Creating drop targets

Create an interactive puzzle

Basic action scripting (Create a basic cat/mouse chase scene on the stage)

Drawing with the pointer

Create a horizontal scrolling menu

Loading external files (images/swf/video) into a Flash document

Filling regions with color (interactive coloring book)

Understanding basic tweening (Create a "shell" game)

Creating a preloader

Mouse detection/scrolling (virtual tours)

Working with Flash components

Duty and Tasks Covered:

000002 Digital Colors

000003 Demonstrate an understanding of color systems

000003 Digital Design:

000001 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000002 Demonstrate an understanding of basic typography concepts

000010 Flash Basics:

000001 Demonstrate an understanding of Flash tools

000002 Demonstrate the ability to create graphics in Flash

000003 Demonstrate the ability to create basic animations in Flash

First Semester (Second Marking Period)

Web Design 1:

Projects:

Setting up a new website

Using text and images in Dreamweaver:

- Typography for the web

- Using CSS to stylize text

- Creating hyperlinks

- Creating e-mail addresses

- Inserting images

- Understanding image resolution

- Create a simple gallery page

- Editing images in the Dreamweaver properties panel

Using CSS:

- Understanding what is CSS

- Understanding style sheets

- How to create and modify styles

Duty and Tasks Covered:

000007 Introduction to Web Design:

000001 Demonstrate an understanding of basic web design concepts

000002 Develop a design plan for your site

000003 Demonstrate an understanding of basic HTML

000004 Demonstrate an understanding of graphic elements for web sites

000006 Demonstrate an understanding of testing, marketing and troubleshooting your web site

000008 Dreamweaver:

000001 Demonstrate an understanding of the tools, panels and basic functions

000002 Demonstrate the ability to set up a local site

000004 Demonstrate the ability to edit HTML

000005 Demonstrate the ability to work with images

000006 Demonstrate the ability to work with links

Second Semester (Third Marking Period)

Multimedia Design II:

Projects:

Importing videos the Flash

Creating Flash video controls

Creating Flash animations on top of videos
Create motion typography in Flash
Create Flash buttons and menus for multimedia projects
Editing sound in Garage Band to include in a Flash movie
Create basic sound controls in Flash

Duty and Tasks Covered:

000002 Digital Color:

000003 Demonstrate an understanding of color systems

000003 Digital Design:

000001 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000002 Demonstrate an understanding of basic typography concepts

000011 Flash Interactivity:

000002 Demonstrate the ability to create interactivity with objects in Flash

000003 Demonstrate the ability to create advanced buttons and user input in Flash

000009 Demonstrate the ability to create multimedia applications in Flash

000010 Demonstrate the ability to create complex interactivity in Flash

Second Semester (Fourth Marking Period)

Web Design II:

Projects:

Website proposal

Creating a flowchart in Illustrator

Creating preliminary sketches on paper for your website

Creating comprehensive rough sketch for your website

Develop a list of references for your website

Create a blog for your website

Create contact forms in HTML, PHP and CSS

Create navigation using Spry, CSS, Photoshop and PHP

Create CSS formatting for your website text

Create a CSS layout in Dreamweaver

Create a web gallery using Adobe Thickbox

Create a web gallery utilizing the Flash external load feature
Create Photoshop layouts for all the pages of your website
Create background images for your website
Demonstrate the ability to set up your site for disabled viewers
Slice a Photoshop layout to develop in Dreamweaver

Duty and Tasks Covered:

000002 Digital Color:

000001 Demonstrate an understanding of color systems

000003 Digital Design:

000001 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000002 Demonstrate an understanding of basic typography concepts

000005 Adobe Photoshop:

000001 Demonstrate an understanding of Photoshop tools and functions

000002 Demonstrate an understanding of Photoshop layer and filter effects

000006 Digital Illustrator:

000001 Demonstrate an understanding of Illustrator tools and functions

000002 Demonstrate an understanding of Illustrator layer and filter functions

000007 Introduction to Web Design:

000001 Demonstrate an understanding of basic web design concepts

000002 Develop a site plan for your site

000003 Demonstrate an understanding of basic HTML

000004 Demonstrate an understanding of graphic elements for web sites

000006 Demonstrate an understanding of testing, marketing, and troubleshooting your web site

000008 Dreamweaver:

000001 Demonstrate an understanding of the tools, panels and basic functions

000002 Demonstrate the ability to set up a local site

000004 Demonstrate the ability to edit HTML

000005 Demonstrate the ability to work with images

000006 Demonstrate the ability to work with links

Level 2 Outcome: Completed multimedia design project, community website, small business website and portfolio review

Course Syllabus Level 3

First Semester (First Marking Period)

Game Design I:

Projects:

Basic game scripting
Basic game layout
Basic game design
Basic game research
Basic Actionscript 2.0 and 3.0
Using Sine and Cosine for directional movement
Formatting text from external style sheets
Branching conditional statements

First Semester (Second Marking Period)

Multimedia Design II:

Projects:

Editing sound in Garage Band to include in a Flash movie
Editing multiple sounds in Garage Band into one remix
Editing a soundtrack in Garage Band to include in a Flash game
Create Flash preloads for large content

Duty and Tasks Covered:

000003 Demonstrate an understanding of color systems

000003 Digital Design:

Ooooo1 Demonstrate an understanding of the elements and principles of design

000004 Digital Typography:

000002 Demonstrate an understanding of basic typography concepts

000011 Flash Interactivity:

000002 Demonstrate the ability to create interactivity with objects in Flash
000003 Demonstrate the ability to create advanced buttons and user input in Flash
000009 Demonstrate the ability to create multimedia applications in Flash
000010 Demonstrate the ability to create complex interactivity in Flash

Second Semester (Third Marking Period)

Character Animation I:

Projects:

Basic understanding of Flash tools

Flash motion typography

Walk cycles

Run cycles

Rotoscoping

Lip-synching

Using the Bone tool

Duty and Tasks Covered:

000060 Flash Character Animation:

000002 Demonstrate an understanding of character development in Flash

000003 Demonstrate the ability to create character movement in Flash

000004 Demonstrate the ability to create animated movement in Flash

000005 Demonstrate the ability to rotoscope in Flash

000006 Demonstrate the ability to lip synch and facial expressions for characters in Flash

Second Semester (Fourth Marking Period)

Character Animation II:

Projects:

Create character model sheets

Create storyboards

Create a storyboard demo reel

Character lip-synching:

 Create phonics

 Create an audio track for your character

Create camera effects in Flash:

 Panning

 Trucking

 Dissolving

 Fading

 Wiping out

 Cuts

 Scrolling background

 Background scenery

Basic character animation movements

- Anticipation
- Overshooting
- Squash and stretch
- Walking cycle
- Running cycle
- Eye expressions
- Tradigital animation
- Bitmapped animation

000060 Flash Character Animation:

000001 Demonstrate the ability to create storyboards for Flash character animation

000006 Demonstrate the ability to lip synch and facial expressions for characters

000007 Demonstrate an understanding of the basics of cinematography in Flash

Level 3 Outcomes: Completed multimedia design project and/or animated short movie, community website, small business website and portfolio review

Supplemental Learning Activities

Students who participate in this program will also have opportunities to participate in the following program and school-sponsored activities:

SkillsUSA: Two groups of two students each participate in the Web Design Competition at the SkillsUSA Regional Competition.

PA Computer Fair: Two groups of students (max: three students each) participate in regional competition for the Computer Fair. Categories include: web site design, multimedia presentation, logo design, animation, and programming (educational video game design).

NTHS: Level II and Level III students who have received an “A” in their career and technical program as well as a “B” average at their sending school are eligible to become a member of the BAVTS Chapter of the National Technical Honor Society.

Cooperative Education: Students who have attended six quarters in their career and technical program are eligible to participate in a paid working experience during the PM session of BAVTS. Positions must be available and the students must be recommended by the CTE teacher to be eligible.

Job Shadowing: Students are eligible to visit business and industry partners for one or more days to view the day-to-day operations of this career area.

Internships: Students who have completed six or more quarters of their CTE program are eligible to work for a business and industry partner with the recommendation of the instructor and the availability of assignment.

Field Trips: Students in this program will on occasion attend field trips that expose them to educational experiences within the career field.

College Credit: Web Design & Animation students are eligible for advanced credit through a Statewide Articulation Agreement developed by the Pennsylvania Department of Education.