ISAT 348—The Multimedia Industry Fall 2011 Syllabus

Introduction

<u>You</u> Are Your Own Best Teacher

The way things get done on the web changes constantly. If you don't stay on top of it, you will quickly find your skills out-of-date. Your instructor has never taken a course in web development. Everything I know I learned by reading tutorials and documentation online as well as through many, many, many hours of trial and error. Programming languages and styles of coding are constantly changing. The only way to stay current in this practice is to develop an understanding of where to look to find relevant tutorials and descriptions of how to do what you want to do. I'm happy to show you some of my favorites, but at the end of the day learning to find them on your own is the only reliable way to keep up to date. That being said, this course is not without structure.

Course Objectives

In many ways, the Internet pwns you. The goal of this course is to put you on the road toward pwning it back. Toward that end, here is a partial list of things you have the opportunity to get out of this course:

- Understanding of **XML** and the general importance of **markup languages**
- Knowledge of **XHTML** and how to structure web pages
- Skill with **CSS**, image creation/manipulation, and other techniques for controlling the presentation of web content
- An introduction to programming with **javascript** and **javascript frameworks** as tools for enhancing user experience with web pages and web-based applications
- Basic familiarity with **Flash** as a platform for developing web-based applications
- Appreciation for **standards and standards compliance** and the desire to integrate them into your web projects
- Practice using **version control systems** and understanding complex collaboration in a web-based development environment

Topics Worth Spending Time On

There is so much ground that could be covered in this course that we will only be able to scratch the surface of most topics. If you put significant time and energy into this course you should, however, be able to leave it with some marketable skills. Here are some of the topics that you may cover:

- Web Languages

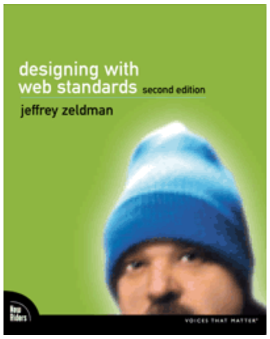
  - XML
  - XHMTL
  - CSS
  - Javascript
  - Javascript frameworks (e.g. Dojo Toolkit, jQuery, etc.)
  - Server-side (e.g. PHP, ASP.Net, Ruby, ColdFusion, etc.)
  - Application frameworks (e.g. Zend, Rails, Django, Fusebox, etc.)
  - Actionscript (Flash)
- Web Protocols
  - HTTP
  - FTP/SFTP
  - SSH
  - SMTP
  - RTSP
  - Jabber/AIM
- Servers
  - Apache
  - IIS
  - Filezilla
  - Subversion
  - Database (e.g. SQLServer, MySQL, Postgres, sqlite, etc.)
  - Other (e.g. Websphere, ColdFusion, Tomcat, Mongrel, Lighttpd, etc.)
- Development Environments
  - Dreamweaver
  - Visual Studio
  - Aptana and other Eclipse-based environments
  - Bespin
- Web Design
  - Usability and Usability Testing
  - Accessibility (a11y)
  - Internationalization (i18n)
  - User Experience and AJAX
- Web Application Genres and Common Open Source Packages
  - E-commerce
  - Blog, e.g. Wordpress
  - Community/Social Networking
  - Project management, e.g. Trac
  - Content Management (CMS), e.g. Joomla!, Drupal
  - Wiki
- Version Control
  - Subversion
  - Git
- Other topics
  - Website analysis and planning
  - Proposal writing
  - Web service publishing and subscription

  - Comet
  - Mobile applications and design for handheld devices
  - Video for the web and screencasting
  - Template customization

Your instructor ***<u>loves</u>*** to learn about new topics in this field, so please, if you don't see something here that you want to cover, please let me know.

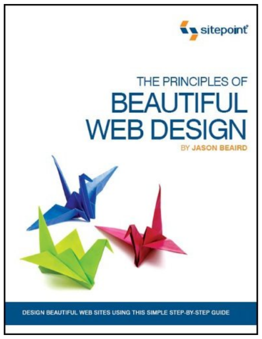
Books

CAVEAT: Most web development books are ***terrible*** and are usually out of date by the time they are in print. I try to never put a book on a syllabus that I would not personally want to have in my own library. That being said, here are two texts that I recommend that have some staying power:



Zeldman, Jeffrey. 2009. Designing with Web Standards, 3rd Edition. Peachpit Press. ISBN 0321616952

Jeffrey Zeldman is one of the movers and shakers in the standards-based design movement that started in the early 2000's. He has a web development shop called Happy Cog studios in New York. One of the reasons this book does not go out of date is that it provides a very good historical account of the evolution of web coding practices. It uncovers some of the few unchanging principles that you'll find in this course. Also, he's a businessman so there is a very nice balance between practical realism and idealism in this book. He's also a pretty funny guy.


sitepoint
THE PRINCIPLES OF
BEAUTIFUL
WEB DESIGN
BY JASON BEAIRD
DESIGN BEAUTIFUL WEB SITES USING THIS SIMPLE STEP-BY-STEP GUIDE

Beaird, Jason. 2007. The Principles of Beautiful Web Design. SitePoint. ISBN 0975841963

This book covers topics related to web page aesthetics such as layout, color scheme, and font selection. For the most part it stays away from the nitty gritty details of how to code these things (details which are constantly changing) and instead focuses on the design process itself. I like this book because the principles it covers don't change. Also, I'm a pretty crappy designer myself and this book provides some really good rules of thumb that allow even design-challenged people like myself to turn out some halfway decent work. The book itself is also very pretty and has lots of great illustrations and pictures.

If you are the type of person who prefers to learn from books, here are some other recommendations:

The O'Reilly Cookbook Series

I recommend that you go to Barnes and Noble or some place like that and browse through one or more of the cookbooks. These books are basically collections of tutorials. Like a real cookbook, it's not designed to be read from cover to cover, but rather you follow "recipes" as needed to complete specific coding tasks. These books exist for almost any technology that you can think of. Beware of cookbooks that are three or more years old as they may not contain up-to-date information.

The New Riders Voices That Matter Series

I've only read a couple of these books, but the quality has been high (Zeldman's book is one of these). They tend to be written by professionals in the industry who really know their stuff. They are about much more than web design, and I think you'll find them pretty interesting.
Please feel free to ask my opinion on any book you are thinking of purchasing. I may be able to steer you in a better direction in some cases.

Schedule

Weekly Use of Class Time

One of the keys to a successful class experience is to have a posted, regular and predictable schedule that everyone can follow. That way, nobody ever has to ask "what should I be doing now?" As such I propose the following use of our weekly class time:

Day	Activity
Monday	Lab time—there will be a new lab ***every*** week
Wednesday	Labs due by 9AM. Grade labs together in class.
Friday	Cover new topics, tie up loose ends, assign lab for next week
Monday Night	(optional) Hacking session, 8-Midnight, ISAT 337

Out of Class Preparation

If you expect to get anything substantial out of this class, you need to make a commitment to spend time out of class figuring out how to do this stuff.

How much time should I spend?

Of course, that's entirely up to you. The federal government considers a 12-hour schedule to be "full-time." A full-time job is 40 hours/week, so **I recommend that at a minimum you commit to spending 10 hours per week** on this class, including time you spend in class and in hacking sessions. Of course, the subject matter is deep enough that you could easily spend much more time than this. I strongly recommend that you keep a log of all time you spend on this class.

How should I spend my outside prep time?

Excellent question. I'm glad you asked. Here are some recommendations:

- Choose your own tasks
- Choose tasks that:

    - Are interesting to you
    - Require you to acquire skills/knowledge that **you** want to get
    - Have clearly defined beginning and end points, i.e. you should be able to cross it off of a checklist
    - Are not too ambitious, i.e. take at most a few hours to complete
    - Match your preferred style of learning
- Make a plan–start early and set explicit tasks each week
- Keep a log of whether or not you completed them
- Take a few minutes each week to review your task completion

What types of tasks am I referring to? Here are some suggestions:

- Complete an online tutorial
- Watch a video on a particular topic or skill
- Read an article or chapter
- Tackle a project or lab to implement something
- Get help or tutoring from a classmate/TA/your professor/outside person
- Analyze/explore examples of websites or other multimedia artifacts you consider to be good
- Write your own tutorial or create your own tutorial video
- Come to the hacking session
- Stop by your prof's office to chat

For each topic we cover explicitly I will make some recommendations about specific chapters to read or tutorials to watch. I'll also create labs designed to give you experience with specific skills. However, this is just a beginning recommendation. Please augment my suggestions with your own!

Rough Schedule of Topics

I make no guarantees that this is indeed an accurate list of topics, nor of the exact schedule by which we'll follow them, but just to give you an idea:

Week	Date	Topic(s)
1	8/29	Course Intro, Markup, XML, XHTML
2	9/5	CSS
3	9/12	Javascript
4	9/19	Javascript Frameworks
5	9/26	AJAX
6	10/3	Image Editing
7	10/10	Video
8	10/17	Flash
9	10/24	Version Control
10	10/31	Open-Source Applications
11	11/7	Template Customization

Week	Date	Topic(s)
12	11/14	Website Analysis and Proposal Writing
13	11/28	Usability, Accessibility, Internationalization
14	12/5	Wrap-Up
15	12/12	Exam/Presentations

Important Dates

The following dates are for the Fall 2011 semester:

- Monday, August 29th: First Day of Class
- Tuesday, September 6th: Last day to Drop/Add without Department Head signature
- Thursday, September 15th: Last day to Add a course with Department Head signature
- Friday, September 16th: Last day to Withdraw from JMU with a full refund
- Monday-Friday, November 21st-25th: JMU Thanksgiving Break
- Friday, December 11th: Last Day of Class
- Monday, December 12th, 10:30AM: Final Exam

Weekly “Hacking” Sessions

From Wikipedia:

> *“Hackers follow a **spirit of creative playfulness** and anti-authoritarianism, and sometimes use this term to refer to people applying the same attitude to other fields.”*

There will be a weekly “hacking” session held in ISAT/CS room 337 on Mondays from 8pm to midnight. Your instructor and/or TA will be present during this session to work with you on anything class-related. These sessions are designed to be a ***fun, relaxed, and very informal***. Feel free to come by get extra help on stuff you’re having trouble with, to work with your prof/TA on some of the projects they’re working on this semester, or perhaps to learn some “extra” tricks or secrets on how to be an effective programmer. This is definitely not required, but is surely destined to be the coolest Monday night hang out spot around so I’m sure you won’t want to miss it.

Evaluation

Simply Put: Grades Undermine Learning

The evidence to support this claim is ample, robust and has been growing for the past 40 years (cf. Deci, Koestner, and Ryan 2001). While it's possible to use grades in a way that minimizes their negative influence on learning, rather than jump through those hoops, your instructor has decided to do away with them altogether. It's simpler, less work, and causes much less stress for everyone involved with the process. Incidentally, it's also a much more effective way to foster learning.

But wait! Don't grades offer important performance feedback?

Maybe, but they aren't really effective at offering feedback unless they are accompanied by robust comments, and if you've got robust comments, what really does the grade add?

Yeah, okay, but grades motivate me to study!

Yes, that's exactly the problem. They aren't really doing what you think they're doing. Watch this video clip from The Office.

If you are genuinely interested in learning the material in this course, why do you need grades to motivate you? And if you aren't interested in the material covered in this course, why are you here? I mean really! Why would you pay money to do something you don't want to do? I don't have any desire whatsoever to force feed this material down your throat. If you don't learn to become a web developer, it has little, if any, impact on me whatsoever. I love the material and I do this job because I truly love sharing my passion with others. I can be a good guide to you but I have no interest in dragging you along against your will. What does either of us gain by that? If you still don't know yet, whether or not you like this stuff, I'm also happy to engage with you to help figure out the answer to that question. If you give the material an honest effort and find you still don't like it, that, in my opinion, is a valuable use of both yours and my time.

Yeah, but *employers* want people with good grades...

Nope. Employers want independent problem solvers who know how to create and deploy effective web media. They want people who know the difference between good work and crap. People who can figure out for themselves how to achieve desired outcomes. Why in the world would a potential employer care about the letter grade on a transcript if you've got a resumé chock full of real live web projects that you've completed? Even though grades are designed to be a proxy for showing what you can do, they are never as good as the real thing. Take advantage of your time in this class to build skills and products that will adequately show what you can do.

Okay, but at least the registrar wants a grade. What will you tell them?

Whatever you want me to. JMU doesn't force me to follow any sort of grading distribution or curve. JMU doesn't charge me $100 per A, $50 per B, $25 per C and so on. It has little impact on me whatsoever if I give all A's or all F's. Personally, I think you should give yourself an honest grade that reflects what you can do. I'm more than happy to help you arrive at that determination. At the end of the semester you and I will have a one-on-one meeting in which we discuss everything you've done this semester and figure out together what to tell the registrar.

That doesn't really sound fair.

Fair to whom? Concepts of fairness only really come into play in the context of a competition between people over scarce resources. We've already established that there's nothing scarce about the supply of A's in the world. The only competition in which there's a potential for unfairness is in competitions for things like jobs, internships, admission to graduate school, and scholarships. The truth is that none of these competitions are really fair anyway. Furthermore, my way of distributing grades is, while unorthodox, no less valid than anyone else's method. For an accessible discussion on the validity of grades I refer you to Alfie Kohn's 2002 article on grade inflation in the Chronicle of Higher Ed. When you really dig into the dank underbelly of how grades are distributed, you're going to find that most of us faculty are just making it up as we go along anyway. Rather than bicker with you over something about which I don't care, my choice is just to let you choose for yourself what you want. Instead, I'll spend my time sharing really juicy content with you, and trying to find out what makes you tick.

Alright already, so if you don't give grades, how am I going to know if I'm doing a good job or not?

Now we're talking.

The whole point of my approach is to make you forget about grades altogether and instead focus on learning how to produce high quality multimedia. So, let me try to use some web media to help shed some light on this rather unorthodox approach. The first question is, what should we be studying? Watch this video on current trends.

Okay, so this video is guilty of a bit of hyperbole and should be taken with a grain of salt, but in my mind here's the money quote:

> *We are currently preparing students for jobs that don't yet exist, using technologies that haven't been invented, in order to solve problems we don't even know are problems.*

This goes double in a web development class. I've been doing web development for 10 years now, and I've seen the state of technology and the practices of development change completely several times within that time frame. What that means is that we have to have a sense of humor about the topics on the syllabus. Although they serve as an interesting framework around which we can spend our time together, it would be somewhat naïve of us to really believe that knowing how to do any of the things there is really going to serve us well for more than three or four years. As such, I believe that a practical and rational set of goals for you to have when you take this course are:

1. Figure out if you really like creating and manipulating media
2. Figure out what your strengths and weaknesses are in this domain

If it turns out that you love doing this and are also likely to be good at it, you may be in what Sir Ken Robinson calls your Element. I think all of your "higher education" should be about finding your element. But don't let me convince you, have a listen to Sir Ken.

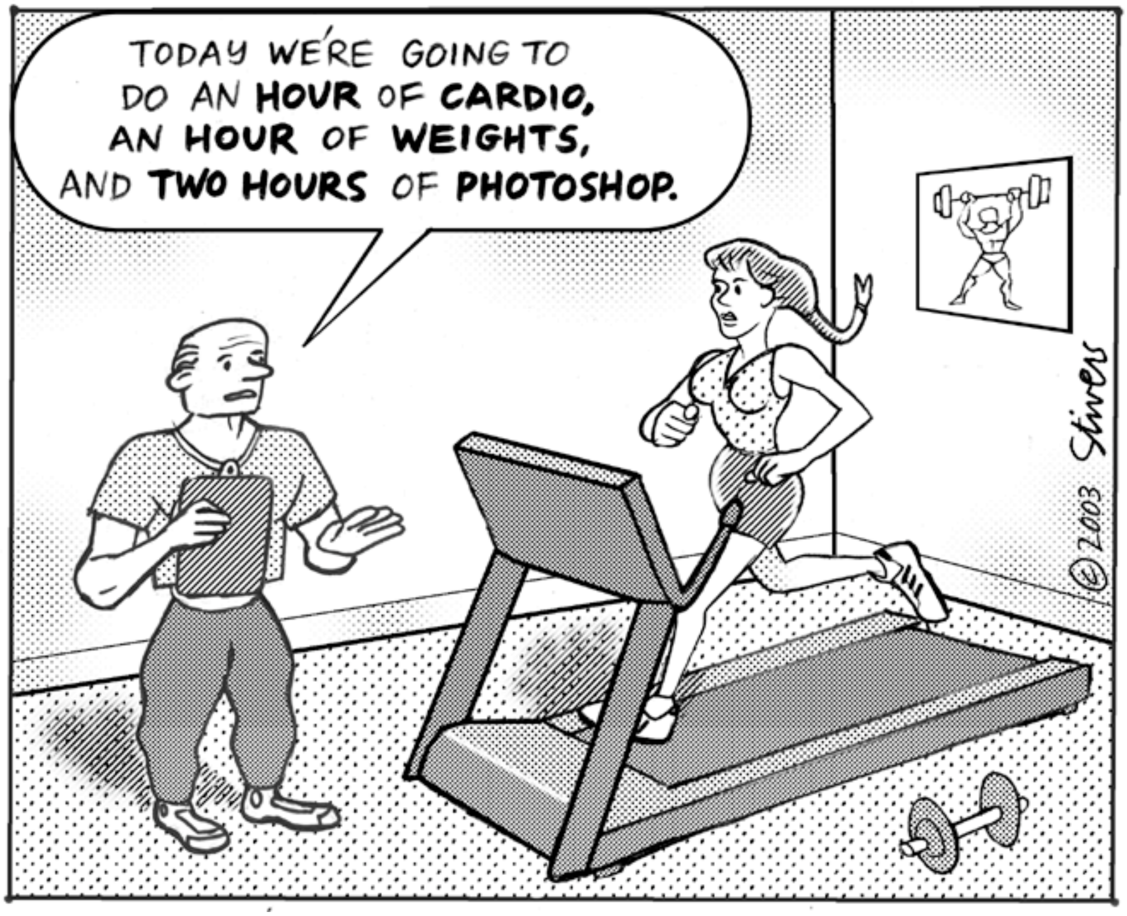
So, if you take what Sir Ken says seriously (and I do), here's what I think it means for us in this class. There are three areas in which your work in multimedia might be evaluated:

1. **Did you enjoy it?** I don't think you need my help in figuring out whether or not you like this stuff. You should be able to evaluate that for yourself.
2. **Is it effective?** Good multimedia, at least at the surface level, should be relatively easy for you to recognize without my help. I mean, a website or video is effective, or it isn't. Although we'll talk about this some, I generally expect that you can decide this for yourself as well. I can give you pointers in how to develop a better sense for aesthetics in your own creations.
3. **Is it technically sound?** Under the surface however, there are some technical aspects of multimedia quality that may only be apparent to a trained eye. I don't expect you to know anything about these aspects and that's where I can bring the greatest amount of my own expertise to bear in this class. This is where I see my efforts as having the greatest impact. My goal is to train you to be able to evaluate the technical aspects of multimedia on your own.

At the end of the day, the responsibility for determining the quality of your work is your own and here's why:

> *If you can't, on your own, tell the difference between high and low quality work, then you will never ever be able to reliably produce high quality work by yourself because…how would you know?*

Lastly, I see my role as your instructor as a guide and cheerleader to help you find your passion. Actually, I really see myself as more like your personal trainer.


TODAY WE'RE GOING TO DO AN HOUR OF CARDIO, AN HOUR OF WEIGHTS, AND TWO HOURS OF PHOTOSHOP.
Stivers
©2003

So what do I mean by that?

1. You have hired me to help you get stronger at multimedia development
2. I can show you what exercises to do, but you are the one who has to put in the time and do the heavy lifting
3. I still get paid, regardless of what you do, so why not get your money's worth?

I really love this stuff, so why not put in everything you've got and get something out of what this class has to offer.

Academic Integrity

Any breach of integrity will be grounds for immediate failure of the course. I take this very personally. However, I ***strongly*** encourage sharing with attribution. The DRY principle (Don't Repeat Yourself) is one of the most celebrated cultural elements in the programming community. This includes incorporating other people's code, where appropriate. Being able to use other people's code effectively is an extraordinarily valuable skill. So, in other words, I encourage collaboration, but make sure to attribute credit to those people who (knowingly or unknowingly) helped you out. The one caveat is I strongly discourage you from copying without comprehension. It would be pretty stupid to turn in a bunch of copied projects on which you learned absolutely nothing. Frequently code that you download from the web comes with explicit copyright preferences of the authors stated. Please respect them.

Your Prof

Name: Morgan Benton
Office: HHS 3224
Office Hours: Mondays 2-4, or other times by appointment
Office Phone: 540 568 6876
Cell Phone: 973 495 7736 (calls and texts are ok within reason)
Calendar: my Google calendar is usually pretty accurate
Email: bentonmc@jmu.edu
Facebook: http://www.facebook.com/morgan.benton
Twitter: http://twitter.com/morphatic
Yahoo!/AIM: mcbenton17 (but I'm almost never logged in)

I'm a highly available person. I'm usually on campus 9-7 Mon-Sat. Tuesdays I shut my door to try to get some research done, so I'd appreciate your help in keeping that "me" time clear, but otherwise meeting with students is one of the most enjoyable parts of my job. You can check out my Google calendar above. If not otherwise indicated, I'm probably in my office.