GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
GRADUATE SCHOOL OF EDUCATION
Instructional Design and Technology (IDT)

EDIT 526-B03
Web Accessibility and Design
3 Credits, Summer 2017

PROFESSOR(S):

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COURSE DESCRIPTION:

    A. Prerequisites/Corequisites
    None
    B. University Catalog Course Description
    Develops understanding of principles of universal web design. Students apply this understanding by designing and developing accessible web site using web authoring tools.

DELIVERY METHOD:

This course will be delivered online using an asynchronous (not "real time") format via the Blackboard learning management system (LMS) housed in the MyMason portal. You will log in to the Blackboard course site using your Mason email name (everything before "@masonlive.gmu.edu) and email password. The course site will be available on June 5, 2017.

Please Note: Under no circumstances, may students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

TECHNICAL REQUIREMENTS:

To participate in this course, students will need the following resources:
- High-speed Internet access with a standard up-to-date browser, either Internet Explorer or Mozilla Firefox. Opera and Safari are not compatible with Blackboard;
- Consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course

- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of the course requirements.

REQUIRED HARDWARE:

You will need access to:
- A **Windows or Macintosh computer** with:
  - A fast and reliable **broadband internet connection** (e.g., cable, DSL)
  - **Speakers or headphones**
  - A **microphone**

REQUIRED SOFTWARE:

NOTE: You do not necessarily need to buy any of the software listed below, but you will need access to it. Please plan accordingly if you are going to use the 30-day demo.
- **Readers and media players:**
  - **Adobe Reader DC** (free) (or other PDF reader, such as Preview on a Mac) http://get.adobe.com/reader/
- **QuickTime** (free) http://www.apple.com/quicktime/download/
- **Adobe Flash player** (free) http://get.adobe.com/flashplayer/
- **Word processing:**
  - **Microsoft Office 365** http://office.microsoft.com
    - Office 365 ProPlus is available to students at no cost via the Microsoft Student Advantage program. The Microsoft Student Advantage Program allows us to provide each student with the latest version of Microsoft Office to use on their personal computers or mobile devices. Each student may install Office on up to five computers and five mobile devices. Go to http://masonlive2.gmu.edu/MicrosoftStudentAdvantage/ for additional details.
- **HTML/text editor** (You may use of one of the following applications. There are, however, similar programs. **Please Note:** *Notepad* on Windows and *TextEdit on Mac OS* may be used for a portion of the course):
  - Mac:
    - **TextWrangler** (free), http://www.barebones.com/products/textwrangler/download.html
  - Windows:
    - **Notepad**++ (free), http://notepad-plus-plus.org/
- **Web Utilities/File Management:**
  - Mac:
    - **Cyberduck** (free), https://itservices.gmu.edu/downloads/
  - Windows:
    - **Secure Shell** (free), https://itservices.gmu.edu/downloads/
- **PDF Editor**:
  - **Acrobat Pro DC** (commercial; not just Adobe Reader DC). Trial version

available: https://acrobat.adobe.com/us/en/free-trial-download.html
- **Note:** You only have 30 days with the trial version; so do not install it too soon. It is also available in some computer labs on campus.
- **Screen reader** (choose at least one):
  - **Windows**
    - **JAWS** (commercial product; most popular screen reader; trial version available for 40 minutes at a time before you have to reboot the computer to keep using it, with essentially no expiration date), http://www.freedomscientific.com/products/fs/jaws-product-page.asp
    - **NVDA** (free), http://www.nvda-project.org/
  - **Mac**
    - **VoiceOver** (free, already installed on Mac OSX)

OPTIONAL HARDWARE

- A **video recording device** (can be a phone, computer, webcam, video camera, or anything that can record videos)

OPTIONAL SOFTWARE

- **Antivirus software**, free for students at http://antivirus.gmu.edu
- **Multimedia content development** (**PC & Mac**)
  - **Kaltura CaptureSpace Desktop Recorder** (available for free through GMU's Bb portal site, https://coursessupport.gmu.edu/coursetools.cfm?audiencename=Students&categoryname=Kaltura&datname=CaptureSpace).
  - **Camtasia** (commercial product; Camtasia has captioning capability that is set to Section 508 compliance standards; there is a trial version you can use for 30 days - http://www.techsmith.com/download/camtasia/)
  - **Screencast-O-Matic**, https://screencast-o-matic.com/home (free account; free recording up to 15 minutes).

EXPECTATIONS:

- **Course Week:** Because asynchronous courses do not have a "fixed" meeting day, our week will **start** on Monday, and **finish** on Sunday.
- **Log-in Frequency**: Students must actively check the course Blackboard site and their GMU email for communications from the instructor, at a minimum this should be **3-4 times per week**.
- **Participation**: Students are expected to actively engage in all course activities throughout the semester, which include viewing of all course materials, completing course activities and assignments, and participating in course discussions and group interactions.

- **Technical Competence**: Students are expected to demonstrate competence in the use of all course technology. Students are expected to seek assistance if they are struggling with technical components of the course.
- **Technical Issues**: Students should expect that they could experience some technical difficulties at some point in the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- **Workload**: This online course is equivalent to a traditional classroom full-semester course. Since it is offered in a **compressed time frame**, please plan to spend approximately **15 to 20 hours a week** completing course activities, assignments, and readings; and viewing mini-lectures and other videos. Remember, this course is **not** self-paced. There are **specific deadlines** and **due dates** listed in the **CLASS SCHEDULE** section of this syllabus to which you are expected to adhere. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- **Advising:** If you would like to schedule a one-on-one meeting to discuss course requirements, content or other course-related issues, and you are unable to come to the Mason campus, we can meet via telephone or web conference. Send me an email to schedule your one-on-one session and include your preferred meeting method and suggested dates/times.
- **Netiquette for Online Discussions [1]:** Our discussion should be collaborative, not combative; you are creating a learning environment, sharing information and learning from one another. Respectful communication is important to your success in this course and as a professional. Please re-read your responses carefully before you post them so others will not to take them out of context or as personal attacks. Be positive to others and diplomatic with your words and I will try my best to do the same. Be careful when using sarcasm and humor. Without face-to-face communications, your joke may be viewed as criticism. Experience shows that even an innocent remark in the online environment can be easily misconstrued.

  Posts that are disrespectful, abusive, written in slang, bullet points, or incomplete sentences will be **deleted and receive no credit.**

  [1] Netiquette prepared by Charlene Douglas, Associate Professor, College of Health & Human Services, GMU. Adapted by Korey Singleton, Adjunct Faculty, College of Education and Human Development, GMU.

LEARNER OUTCOMES:

At the end of this course, students will be able to:
1. Name the various types of disabilities and their potential functional limitations
2. Define accessibility in the context of digital technologies
3. List the various software tools available to determine the extent to which a digital content item is accessible
4. Evaluate the accessibility of digital content
5. Create accessible Word and PDF documents

6. Explain the concept and principles of Universal Design
7. Apply the principles of Universal Design to the design of an instructional product
8. Create closed captioning and ALT tags for a multimedia product
9. Develop the framework for an organization-wide accessibility policy for the procurement, creation and delivery of technology-based instructional products

PROFESSIONAL/TECHNICAL STANDARDS

- Web Design
  - HMTL
  - CSS
  - WAI-ARIA
- Media and document accessibility
  - Audio and Video accessibility
  - Adobe PDF accessibility
  - MS Word accessibility
- Accessibility laws and guidelines
  - Section 508 of the Rehabilitation of 1973
  - Americans with Disabilities Act (ADA)
  - Web Content Accessibility Guidelines (WCAG) 2.0
- International Board of Standards for Training, Performance and Instruction (IBSTPI):
  - Professional Foundations:
    1. Communicate effectively in visual, oral and written form
    5. Identify and respond to ethical, legal, and political implications of design in the workplace
  - Planning and Analysis:
    7. Identify and describe target population and environmental characteristics
    9. Analyze the characteristics of existing and emerging technologies and their potential use
  - Design and Development:
    14. Select or modify existing instructional materials
    15. Develop instructional materials

REQUIRED TEXTS:

None. All required reading materials will be posted in Blackboard.

Recommended Texts to Consider:

Meloni, J. C. (2014). Sams Teach Yourself HTML and CSS in 24 Hours, (9th ed.). Indiana: Pearson Education, Inc.

- This resource is not required. It is a helpful reference for the web development (i.e., HTML, CSS) portions of this course. It is available online for less than $20 (e.g., Amazon), but you could also check it out of your local library for free.

COURSE ASSIGNMENTS AND EXAMINATIONS:

Detailed assignment requirements are posted in Blackboard, along with the grading rubrics for each assignment.

- Discussion Board Postings (3)   15 points

- Final Project Feedback (via Discussion Board)   5 points

- Simulation lab report   10 points

- Evaluate the accessibility of an existing web site   15 points

- Fix the accessibility issues in a Word/PDF document   10 points

- Create a practice webpage   20 points

- Create an accessible, instructional resource using HTML and CSS   30 points

Total   **105 points**

GRADING POLICIES

- **General information**: The evaluation of student performance is related to the student's demonstration of the course outcomes. All work is evaluated on its relevance to the specific assignment, comprehensiveness of information presented, specificity of application, clarity of communication, and the analytical skills utilized, as documented in the respective grading rubrics at the end of this syllabus and on the Bb course site.

- **Grading scale**: The grading scale used in this course is the official George Mason University scale for graduate-level courses. Decimal percentage values $\geq.5$ will be rounded up (e.g., 92.5% will be rounded up to 93%); decimal percentage values $<.5$ will be rounded down (e.g., 92.4% will be rounded down to 92%).

Letter Grade	Total Points Earned
A	93%-100%
A-	90%-92%
B+	88%-89%
B	83%-87%
B-	80%-82%
C	70%-79%
F	<70%

BLACKBOARD REQUIREMENTS

Every student registered for any course <u>with a required performance-based assessment</u> is required to submit this assessment to Blackboard (regardless of whether a course is an elective, a onetime course or part of an undergraduate minor). Evaluation of the performance-based assessment by the course instructor will also be completed in Blackboard. Failure to submit the assessment to Blackboard will result in the course instructor reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Blackboard submission, the IN will convert to an F nine weeks into the following semester.

GMU POLICIES AND RESOURCES FOR STUDENTS

a. Students must adhere to the guidelines of the George Mason University Honor Code (See
   http://oai.gmu.edu/the-mason-honor-code/).

b. Students must follow the university policy for Responsible Use of Computing (See
   http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).

c. Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (See http://caps.gmu.edu/).

e. Students with disabilities who seek accommodations in a course must be registered with the George Mason University's Disability Services (DS) Office and inform their instructor, in writing, at the beginning of the semester (See http://ds.gmu.edu/).

f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

g. The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (See http://writingcenter.gmu.edu/).

PROFESSIONAL DISPOSITIONS

Students are expected to exhibit professional behaviors and dispositions at all times.

CORE VALUES COMMITMENT

The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: http://cehd.gmu.edu/values/.

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website http://gse.gmu.edu/.

WEEKLY SCHEDULE

Week/ Learning Outcomes	Topic	Readings/Mini-lectures	Assignments
Week 1 Mon, 6/5 – Sun, 6/11 *Learning Outcomes: 1, 2*	Overview of web accessibility, assistive technology, usability, and disability	Readings • *Intro to Web Accessibility* • *How Individuals with Disabilities are impacted on the web* Mini-lectures • *Accessible Web Design* • *Examples of how assistive technology applications interact with web content*	**Assignment #1 (10 pts.): Simulation Lap Report** *(Due June 11th by midnight)* **Discussion Post #1 (5 pts.):** *(Responses due June 8th by midnight, comments due June 11th by midnight)*
Week 2 Mon, 6/12 – Sun, 6/18 *Learning Outcomes: 3, 4, 5*	Overview of relevant accessibility laws/guidelines Basic web accessibility evaluation techniques and tools	Readings • *Basic Strategies for Assessing the Accessibility of a website* Mini-lectures • *Legal Landscape*	

Week 3 Mon, 6/19 – Sun, 6/25 *Learning Outcomes: 3, 4*	Basic web accessibility evaluation techniques and tools *cont.*		**Assignment #2 (15 pts.): Evaluate the accessibility of a website** *(Due June 25th by midnight)* **Discussion Post #2 (5 pts.):** *(Responses due June 22nd by midnight, comments due June 25th by midnight)*
Week 4 Mon, 6/26 – Sun, 7/2 *Learning Outcomes: 3, 4*	Creating accessible Word and PDF documents	Readings • *Best Practices for Making Word Documents Accessible* • *Find and Fix Accessibility Issues in Office 2016* • *Rules for Office 2016's Accessibility Checker* Mini-lectures • *Creating Accessible Word Documents*	**Assignment #3 (10 pts.): Fix the accessibility issues in a Word/PDF document** *(Due July 2nd by midnight)*
Week 5 Mon, 7/3 – Sun, 7/9 *Learning Outcomes: 2, 3, 4*	Introduction to UDL principles and practices Learn basic HTML techniques that impact web accessibility	Readings • *UDL Guidelines 2.0* Mini-lectures • *UDL principles and practices* • *HTML Basics* • *Common HTML Elements*	**Assignment #4 (20 pts.): Create a practice webpage** *(Due July 9th by midnight)* **Discussion Post #3 (5 pts.):** *(Responses due July 6th by midnight, comments due July 9th by midnight)*

Week 6 Mon, 7/10 – Sun, 7/16 *Learning Outcomes: 6, 7*	Learn basic CSS techniques that impact web accessibility	Readings • *Creating Accessible Tables* • *Creating Accessible Images* • *Creating Accessible Forms* Mini-lectures • *CSS – Basics* • *CSS – Font color and formatting* • *CSS – Designing Navigation*	**Assignment #5 (ungraded): Complex HTML Elements and Basic CSS** *(Due July 16th by midnight)*
Week 7 Mon, 7/17 – Sun, 7/23 *Learning Outcomes: 6, 7*	Using CSS to for styling and positioning;	Mini-lectures • *CSS – The Box Model* • *CSS – Positioning, Floats, and Layouts* • *Accessible Rich Internet Applications (ARIA)* • *Additional accessibility techniques*	**Final Project Feedback Post (2.5 pts.):** *(Project URL due July 23rd by midnight, feedback for classmates due July 27th by midnight)*
Week 8 Mon, 7/24 – Sun, 7/30 *Learning Outcomes: 6, 7*	Creating accessible videos	Readings • Adding captions to a YouTube video	**Final Project Feedback Post (2.5 pts.):** *(Project feedback for classmates due July 27th by midnight)* **Final Project Due (30 pts.): Create an accessible instructional product using HTML and CSS** *(Due July 30th by midnight*

ASSESSMENT RUBRIC:

Final Project Grading Rubric

IBSTPI Competency	Criteria	Does Not Meet Standards	Meets Standards	Exceeds Standards
7: Identify & describe target population & environmental characteristics	**Executive Summary**	Summary misses most components of the evaluation or is unclear; exceeds word limit	Provides a summary of most components of the evaluation; exceeds word limit	Provides a clear, concise summary of ID project, problem statement, and all evaluation components in 300 words or less
5: Identify ethical, legal & political implications of design in the workplace	**Issue impact summary**	Little to no evidence of accessibility and/or usability considerations in the overall product design (i.e., alt text for images, properly formatted tables, captions/transcripts for videos, etc.).	Accessibility and/or usability considerations in most elements of the overall product design (i.e., alt text for images, properly formatted tables, captions/transcripts for videos, etc.).	Accessibility and/or usability considerations clearly addressed in all elements of the product design (i.e., alt text for images, properly formatted tables, captions/transcripts for videos, etc.).
15: Develop Instructional Materials	**Website Template**	The template is missing most or all of the required elements and there is little consistency between pages.	The template is missing some of the required elements or there are some variations in the template sections between pages.	The template includes all of the required elements and the template section is exactly the same on every page.
15: Develop Instructional Materials	**Cascading Style Sheet**	Most of required elements are missing.	Parts of the required elements are missing.	The CSS contains all required elements and the style sheet is well-organized, well-written, and easy to understand.

15: Develop Instructional Materials	**Page-specific Styles**	The styles fail to achieve the goal of highlighting the active/selected tab.	The styles achieve most of the goal of highlighting the active/selected tab, but there are deficiencies.	The page-specific styles highlight the active/selected tab and are written concisely.
15: Develop Instructional Materials	**Website Content**	Most of the content requirements are not met.	Parts of the content requirements are not met.	The content meets all the requirements and is well written.
1: Communicate effectively in visual, oral and written form	**Language**	Rules of English grammar, usage, spelling and punctuation are not followed; multiple language errors throughout the document	Rules of English grammar, usage, spelling and punctuation are generally followed throughout the document; one or two minor language errors	Rules of English grammar, usage, spelling and punctuation are followed consistently throughout the document; no language errors

PLEASE NOTE: *Assessment rubrics for other assignments are located in the Bb course.*