Cerro Coso College

Course Outline of Record Report

10/14/2021

DMAC113 : Accessibility and UX Design

General Information

Author:	• Suzanne Ama • Taton, Vickie • Stallings, Michelle
Course Code (CB01) :	DMAC113
Course Title (CB02) :	Accessibility and UX Design
Department:	Business Information Technolog
Proposal Start:	Spring 2022
TOP Code (CB03) :	(0614.30) Website Design and Development
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	Yes
Course Control Number (CB00) :	CCC000581243
Curriculum Committee Approval Date:	10/28/2016
Board of Trustees Approval Date:	12/15/2016
External Review Approval Date:	03/15/2017
Course Description:	This course introduces students to user-centered design. Topics include web content accessibility, usability, and interaction design. Analysis of intended audience is carefully considered. Students also use several software tools from the Adobe Creative Cloud for rapid prototyping. Students should be proficient in Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) upon enrolling in this course.
Submission Type:	New Course Materials Mandatory Revision Update for Program Review. This course is being assessed Spring 2021. No impacts from the last assessment are driving this revision.
Author:	No value

Faculty Minimum Qualifications

Master Discipline Preferred:	• Computer Science
Alternate Master Discipline Preferred:	No value
Bachelors or Associates Discipline Preferred:	• Computer Information Systems (Computer network installation, microcomputer technology, computer applications) • Multimedia
Additional Bachelors or Associates Discipline Preferred:	No value

Course Development Options

Basic Skills Status (CB08)

Course is not a basic skills course.

Course Special Class Status (CB13)

Course is not a special class.

Grade Options

- Letter Grade Methods
- Pass/No Pass

☐ Allow Students to Gain Credit by Exam/Challenge

Allowed Number of Retakes

0

Course Prior To College Level (CB21)

Not applicable.

Rationale For Credit By Exam/Challenge

No value

Retake Policy Description

Non-Repeatable Credit

☑ Allow Students To Audit Course

Course Support Course Status (CB26)

Course is not a support course

Associated Programs

☑ Course is part of a program (CB24)

Associated Program	Award Type	Active
CC Web Professional	Certificate of Achievement	Summer 2018
CC Web Professional	A.S. Degree Major	Summer 2018
Web Professional Associate of Science (In Development)	A.S. Degree Major	Fall 2022
Web Professional Certificate of Achievement (In Development)	Certificate of Achievement	Fall 2022

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

Y

Transferability

Transferable to CSU only

Transferability Status

Approved

Cerro Coso General Education Requirements	Categories	Status	Approval Date	Comparable Course
Area 6	Diversity	Approved	No value	No Comparable Course defined.

Units and Hours

Summary

Minimum Credit Units (CB07)	4
Maximum Credit Units (CB06)	4
Total Course In-Class (Contact) Hours	108
Total Course Out-of-Class Hours	108
Total Student Learning Hours	216
Faculty Load	0

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Non-Credit Characteristic

No Value

Course Classification Status (CB11)

Credit Course.

☐ Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Classs
Lecture Hours	3	6
Laboratory Hours	3	0
Activity Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	54
Laboratory	54
Activity	0
Total	108
Course Out-of-Class Hours	
Lecture	108
Laboratory	0
Activity	0
Total	108

Time Commitment Notes for Students

No value

Faculty Load

Extra Duties: 0

Faculty Load: 0

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

DMAC111 - Fundamentals of Web Development

In DMA C113, students are expected to build upon the fundamentals of HTML and CSS in order to develop web sites that implement principles of usability and accommodations for disabilities. A breadth of HTML tags and CSS selector types and properties are taught in DMA C111 that provide such a foundation.

Entrance Skills

Entrance Skills	Description
No value	No value

Limitations on Enrollment

Limitations on Enrollment	Description
No value	No value

Specifications

Methods of Instruction

Methods of Instruction	Audiovisual
Rationale	**Video Instruction** Example: Students watch a video of layout techniques in Adobe XD.

Methods of Instruction	Outside reading
Rationale	**Textbook Reading** Example: Students read assigned chapter in textbook on client analysis.
Methods of Instruction	Lecture
Rationale	**Written Lecture** Example: Students read instructor lecture on accessibility testing tools.
Methods of Instruction	Instruction through examination or quizzing
Rationale	**Quizzes** Example: Students revise sample content for conciseness and clarity that is optimized for screen reading.
Methods of Instruction	Group Work
Rationale	**Group assignments** Example: Students work in groups over a period of four weeks to learn how to work collaboratively and to collectively evaluate web pages according to specified criteria.

Assignments

A. Textbook and Web Readings. Example: Students read Pattern Group B in the text so they are able to critique a web site according to principles of navigation design.
B. Exercises: Example: Students complete exercises, demonstrating proficiency with software tools.
C. Projects: Example: Students develop a prototype of a web site, demonstrating interaction design.

Methods of Evaluation	Rationale
Participation	Weekly Discussion Assignments Example: Students evaluate a web page's technical performance and provide feedback to peers.
Tests	Quizzes: Example: Students match appropriate accommodations with specific disabilities.
Project	Projects: Example: Students develop a prototype of a web site, demonstrating interaction design.
Distance Education Description: how outcomes are evaluated	Students complete assignments and projects in Adobe XD, and they submit assignments and projects as attachments in Canvas discussion forums where the instructor and peers provide feedback. The assignments are one week in duration, and the projects are two weeks in duration. Instructor formative feedback is provided in the discussions to allow for refinement of the final artifact. A component of evaluation is weekly participation in the discussions. Rubrics are provided for all assignments and projects. A separate rubric is also created for SLO assessment. The activities of grading and assessing are distinct. The evaluation criteria and rigor is identical, regardless of delivery mode.

Equipment

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Preece, J., Sharp, H., Rogers, Y	Interaction Design: Beyond Human-Computer Interaction	Wiley	2019	978-1119547259

Other Instructional Materials

No Value

Materials Fee

No

Learning Outcomes and Objectives

Course Objectives

No value

CSLOs

Apply coding, captioning, or other accommodations to make web content accessible according to a specific standard. Expected SLO Performance: 70.0

ISLOs Core ISLOs	Students who are completing a program will be prepared to engage in responsible citizenship at various levels.
Business Information Technolog Web Professional Certificate of Achievement	3. Use valid markup, cascading style sheets, semantic encoding, accessibility compliance, and error-free scripting in the creation of Web content. Assessment:This will be assessed and scored with an exam.

Apply principles of usability to web content. Expected SLO Performance: 70.0

Business Information Technolog Web Professional Certificate of Achievement	4. Apply design principles to solve visual communication problems. Assessment:This will be assessed with a project, scored by a rubric.

Apply principles of interaction and user experience design to navigational interfaces. Expected SLO Performance: 70.0

Business Information Technolog Web Professional Certificate of Achievement	4. Apply design principles to solve visual communication problems. Assessment:This will be assessed with a project, scored by a rubric.

Use a variety of software tools to convey web site or application interactivity through rapid prototyping. Expected SLO Performance: 70.0

Business Information Technolog Web Professional Certificate of Achievement	2. Demonstrate technical and creative mastery of the creation of Web media, such as graphics, motion graphics, and interactive media. Assessment:This will be assessed with a project, scored by a rubric

Outline

Course Outline

A. Accessibility Standards
1. Accessibility Law
2. Compliance Standards
B. Disabilities and Web Based Accommodations
1. Visual
2. Aural
3. Motor
4. Cognitive
C. Accessibility Testing
1. Automated Tools
2. Simulators
3. Rubrics for Manual Evaluation
D. User-Centered Development Process
1. User/Task Analysis
2. Discovery Phase
3. Exploration Phase
4. Refinement Phase
5. Production Phase
6. Implementation and Testing Phase
7. Launch Phase
8. Maintenance Phase
E. Site Structure and Navigation
1. Chunking Content
2. Site Breadth and Depth
3. Conveying Location
4. Search and Intent
5. Linking Conventions
F. Visual Hierarchy
1. Gestalt Principles
2. Bertin's Visual Variables
3. The Grid
4. Visual Movement
G. Writing and Editing for the Web
1. Conciseness; Clarity; Fluency; Exactness; and Appropriateness
2. Optimizing Headings
3. Optimizing Link Verbiage
4. Establishing Trust and Credibility
5. Search Engine Optimization
6. Writing for a Global Audience
H. Technical Performance
1. Optimizing Download Times
2. Cross Browser and Device Support
3. Plugins
I. Usability Testing
1. Testing Methods

2. Testing Tools
N/A

Lab Outline

A. User-centered design
1. Analysis of audience
2. User goals
3. Accessibility
4. Content usability
5. Design Patterns
6. Interaction design

B. User-centered development process
    1. User/task analysis
    2. Discovery phase
    3. Exploration phase
    4. Refinement phase
    5. Production phase
    6. Implementation and testing phase
    7. Launch phase
    8. Maintenance phase
C. Accessibility
    1. Standards and laws
    2. Visual disabilities
    3. Auditory disabilities
    4. Motor disabilities
    5. Cognitive disabilities
    6. Markup accommodations
    7. Captioning, transcripts
    8. Other accommodations
D. Information architecture
    1. Content objectives
    2. Audience
    3. Content units
    4. Classification and hierarchy
    5. Content relationships
    6. Common site structures

A. Site structure and navigation
    1. Chunking content
    2. Site breadth and depth
    3. Conveying location
    4. Search and intent
    5. Linking conventions
B. Visual hierarchy
    1. Gestalt principles
    2. Bertin's visual variables
    3. The grid
    4. Visual movement
C. Writing and editing for the web
    1. Conciseness, clarity, fluency, exactness, and appropriateness
    2. Optimizing headings
    3. Optimizing link verbiage
    4. Establishing trust and credibility
    5. Search engine optimization
    6. Writing for a global audience
D. Technical performance
    1. Optimizing download times
    2. Cross browser and device support
    3. Plugins
E. Usability testing
    1. Testing methods
    2. Testing tools

A. Interaction design
    1. User, interface, system
    2. Conceptual model
    3. User/interface action cycle
    4. Gulfs of evaluation and execution
    5. Affordances
    6. Constraints
    7. Mappings
    8. Visibility
    9. Labels
    10. Modes
    11. Feedback
    12. Error recovery
B. Semiotics
    1. Components
    2. Types of signs

3. Principles

C. Rapid Prototyping
   1. Process
   2. Raster software
   3. Vector software
   4. Interaction software

Delivery Methods

Delivery Method: Please list all that apply -Face to face -Online (purely online no face-to-face contact) -Online with some required face-to-face meetings ("Hybrid") -Online course with on ground testing -iTV – Interactive video = Face to face course with significant required activities in a distance modality -Other

- Face to face
- Online (purely online no face-to-face contact)
- Online with some required face-to-face meetings ("Hybrid")
- iTV – Interactive video = Face to face course with significant required activities in a distance modality

Rigor Statement: Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section? Describe the ways in which instructor-student contact and student-student contact will be facilitated in the distance ed environments.

All assignments in distance education course sections of DMA C113 are of the same rigor as those in the on-ground section, except that students in purely online sections will submit all of their assignments virtually. Instructor evaluation of student work in distance education course sections is the same as in the on-ground course section, except that evaluation of student work in the online version is presented virtually. Instead of onsite lectures, hybrid and online courses use a variety of methods including, but not limited to videos, and written lecture notes. Students will interact with the instructor and other students via discussion forums or similar methods.

Good practice requires both asynchronous and synchronous contact for effective contact. List the methods expected of all instructors teaching the course. -Learning Management System -Discussion Forums -Message -Other Contact -Chat/Instant Messaging -E-mail -Face-to-face meeting(s) -Newsgroup/Discussion Board -Proctored Exam -Telephone -iTV - Interactive Video -Other

- Discussion Forums
- Message
- Chat/Instant Messaging
- E-mail

Software and Equipment: What additional software or hardware, if any, is required for this course purely because of its delivery mode? How is technical support to be provided?

Technical support will be provided by the instructor.
macOS

	Minimum requirement
Operating system	macOS X v10.14 or later
Display	13 inches or larger display, 1400x900 resolution, Retina recommended.
Internet	Internet connection and registration are necessary for required software activation, validation of subscriptions, and access to online services. Voice capabilities require users to be connected to the Internet to preview their prototypes.
RAM	4 GB of RAM
Storage	We recommend using cloud documents (stored in Creative Cloud), but also support documents stored on local storage. We do not recommend using synced cloud storage (example CC Files, Dropbox, Google Drive, etc) or network drives to store XD documents.

Windows

	Minimum requirement
Operating system	Windows 10 (64-bit) - Version 1803 (build 10.0.17134) or later.
Display	13 inches or larger display, 1280x800 resolution.
Internet	Internet connection and registration are necessary for required software activation, validation of subscriptions, and access to online services. Voice capabilities require users to be connected to the Internet to preview their prototypes.
RAM	4 GB of RAM
Graphics	Minimum Direct 3D DDI Feature Set: 10. For Intel GPU, drivers released in 2014 or later are necessary. To find this information, launch “dxdiag” from the Runmenu and select the “Display” tab.
Pen and touch input	XD on Windows 10 supports Windows' native pen and touch features. For more information on working with pen and touch in XD, refer Common questions. (https://helpx.adobe.com/xd/help/faq.ug.html)
Storage	We recommend using cloud documents (stored in Creative Cloud), but also support documents stored on local storage. We do not recommend using synced cloud storage (example CC Files, Dropbox, Google Drive, etc) or network drives to store XD documents.

Accessibility: Section 508 of the Rehabilitation Act requires access to the Federal government's electronic and information technology. The law covers all types of electronic and information technology in the Federal sector and is not limited to assistive technologies used by people with disabilities. It applies to all Federal agencies when they develop, procure, maintain, or use such technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden". I am using -iTV—Interactive Video only -Learning management system -Publisher course with learning management system interface.

- Learning management system

Class Size: Good practice is that section size should be no greater in distance ed modes than in regular face-to-face versions of the course. Will the recommended section size be lower than in on-ground sections? If so, explain why.

Class size will not be lower than on-ground sections.

Emergency Distance Education Options The course will operate in remote delivery mode when all or part of the college service area is under an officially declared city, county, state, or federal state of emergency, including (check all that apply) - Online including all labs/activity hours - Hybrid with online lecture and onsite lab/activity hours - Correspondence education in high school and prison facilities - None. This course will be cancelled or paused if it cannot be held fully onsite.

- Online including all labs/activity hours