SAGRADO
Universidad del Sagrado Corazón

Syllabus

Title:	Multimodal Electronic Design
Code:	GRA 405
PREREQUISITES:	GRA 315
CREDITS:	3 credits | 45 contact hours | 1 term

Description

Discussion of various aspects of the design, development, implementation, and evaluation of content for clients on the Internet and for other emerging media. Study of tools for web development, navigation, and user experience: graphics and video applications. A project involving the design and development of a website for digital media is required. This course is an elective for students in the Computer Science Program. The course is taught partially online. The course requires active student participation in research, implementation, and presentation of results.

Justification

Within the field of Computer Science, the area that has seen the most development in recent years has been the Internet. Specialists in interactive development must understand the fundamental elements of design and implementation, as well as the existing tools, in order to display content not only on networks but also on any type of device capable of rendering the content correctly. In this way, they will be equipped to meet the demands of this field of computer science.

COMPETENCIES

The course develops the following competencies in students:

- **Communication**
- **Research and Exploration**

OBJECTIVES

Upon completion of the course, students will be able to:

1. Understand the criteria for adapting and applying the systems analysis and design model to the design of electronic content for multiple media
2. Understand and apply graphic design elements, usability concepts, and security principles in the design and creation of web pages that combine text, images, and interactive content.
3. Create content and an online presence that is accessible on relevant devices
4. Use technology appropriately and responsibly, demonstrating a sense of ethics in their professional and personal conduct.
5. Express their ideas clearly and coherently, both orally and in writing, especially in the development of electronic content
6. Recognize the impact of the internet on various areas of human activity.

Content

I. Introduction

A. What Is Electronic Content Design?

B. Analysis and Design of Information Systems

C. User-Centered Design

1. Visual Model
2. Technological model
3. User-oriented model

D. Designing for Different Screen Sizes

E. User Testing and Assessments

II. HTML and CSS Design Process

A. Cascading model

B. Analysis phase

1. Goals and Objectives of the Content or Page
2. Audience

C. Tool Inventory

D. Design Phase

1. Requirements
2. "site plan/map"
3. "Prototyping" vs. "Storyboarding"

4. Metaphors

III. Introduction to Internet Technologies

A. Fundamental Networking Concepts

1. Client-server architecture

2. Communication protocols: HTTP, FTP

B. Techniques for Modern Networking

1. Browsers

3. UI/UX - User Experience

4. "cookies"

5. "plug-ins"

6. Web programming languages

IV. Types and architectures of electronic content

A. Interactive vs. Static Content

B. Structure and hierarchy

C. Specific types (commercial, informational, entertainment, portfolio, community, information-gathering, personal, etc.)

V. Web page design

A. Choosing the platform(s) to use

C. Use of text: type, size, color

D. Use of color

E. Use of graphics and backgrounds: type, size

F. Interactive pages: pop-up windows, forms, pull-down menus,

VI. Navigation

A. Links: text, buttons, graphics

B. Consistency

C. Incorporate a "site map" into the design

D. Indexes, help sections, "tours"

VII. Implementation and content management

A. Front-End

B. Back-End

C. Content Management

D. Security aspects

METHODOLOGY

The following active learning methodology strategies are recommended:

- Project-Oriented Learning (**POL**) / Project-Based Learning (**PBL**)
- **Research**-Based Learning (**RBL**)
- Collaborative Learning - **CL**
- Design Thinking - **DT**

EVALUATION

Midterm Assignments	30%
Oral presentations	25%
Final project or exam	30%
Class participation	15%
TOTAL	100%

Student Learning Assessment

The institutional assessment rubric is applied to the core activity of the course.

BIBLIOGRAPHY

Frain, B. (2020). Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques, 3rd Edition: Packt Publishing. Birmingham, UK

Flanagan, D., (2020). JavaScript: The Definitive Guide: Master the World's Most-Used Programming Language, 7th Edition: O'Reilly Media, Inc. Sebastopol, CA

Lickiss, M.D. (2019). *Design Perspectives on Multimodal Documents: System, Medium, and Genre Relations*: Routledge Taylor & Francis Group, New York, NY

Platz, Cheryl. *Design Beyond Devices: *Creating Multimodal, Cross-Device Experiences** (2020). Rosenfeld Media; 1st edition: New York, NY Johnson, J., ***Designing with the Mind in Mind: A Simple Guide to Understanding User Interface Design Guidelines*, 3rd Edition** (2020): Morgan Kaufmann Publishers, Cambridge, MA

Tolstoy, Leon. (2007). *What Is Art?* Madrid: S.A. Eunsa Ediciones. Robbins, J. - (2018). *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics, 5th Edition,* O'Reilly Media, Inc., Sebastopol, CA

ELECTRONIC RESOURCES

Demystifying Multimodal Design w/ Cheryl Platz
https://www.youtube.com/watch?v=vvMVKVkug38
http://www.cherylplatz.com/

CSS Tutorials
W3 Schools —https://www.w3schools.com/css/

CSS Tutorial - Zero to Hero (Complete Course)
https://www.youtube.com/watch?v=1Rs2ND1ryYc

HTML and CSS Tutorial for 2021 - COMPLETE Crash Course!
https://www.youtube.com/watch?v=D-h8L5hgW-w

P., LaPointe, V., Patel, S., Lester, K., Andrews, M., Pixar Animation Studios, Khan

Academy (2015). *Pixar in a Box: The Art of Storytelling*

https://www.khanacademy.org/partner-content/pixar/storytelling

Kramer, A. (2020). *Video Copilot*. http://www.videocopilot.net/basic/ Sarto, D.,

Diamond, R. (2020). *Animation World Network.* http://www.awn.com

You can find more resources related to the course topics on the library's website:
http://biblioteca.sagrado.edu/

Reasonable Accomodation

For detailed information on the process and required documentation, please visit the appropriate office. To ensure equal opportunity, in compliance with the ADA (1990) and the Rehabilitation Act (1973), as amended, any student who requires Reasonable Accomodation or special assistance must complete the process established by the Vice-Presidency for Academic Affairs.

ACADEMIC INTEGRITY

This policy applies to all students enrolled at the Universidad del Sagrado Corazón to take courses with or without academic credit. A breach of academic integrity is any act or omission that fails to demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who violates the policy on honesty, fraud, and plagiarism is subject to the following sanctions: a grade of zero on the assessment and/or having to redo the seminar assignment; a grade of F(*) in the seminar; or suspension or expulsion, as established in the Academic Integrity Policy document effective November 2022.

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