

# WEBS AND APPS DESIGN

**IE University**

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Degree course: SECOND

Semester: 2<sup>o</sup>

Category: COMPULSORY

Number of credits: 6.0

Language: English

## PREREQUISITES

There are no learning prerequisites to this course. However, this course will demand your active participation and readiness to deep-dive into technical learning components of web-based technologies.

Although this course does not emphasize the how-to's on using specific software, a basic competency using Adobe Illustrator and Adobe Photoshop will be advantageous, as you will be expected to produce design deliverables as part of your assignments.

It is expected that you will bring your personal laptops and sketching materials (i.e. paper, pen/pencil) to every class!

## SUBJECT DESCRIPTION

For the most part, we come into contact with digital products from the point of view of a user. This course will place you on the other side, treating everyday web products from the perspective of a web designer. We will explore the different factors that make web sites and web applications easy to use, and if we're lucky, *delightful*, for the people who use them.

At a high-level, this course is divided into 2 main phases;

### 1. The Design Phase

During this phase, we will walk you through the process involved in planning and conceptualizing a website. Keep in mind that web design is not only about creating beautiful mockups on photoshop; to effectively create a product that is useful and delightful, we need from the abstract by asking the right questions, before we move to the concrete. And so, we will partition this phase further into 5 'planes' of user experience (based on Jesse James Garrett's *Elements of User Experience*) that make up the design phase, starting from the most abstract, e.g. planning, to the most concrete, e.g. designing mockups:

- **STRATEGY:** Why are we designing this product? What do we want out of it? Who are our users? What do they want out of it?
- **SCOPE:** What are we designing? What is required in order to fulfill our objectives and the needs of our users?
- **STRUCTURE:** How do we organize our information space in a way that makes sense? How will our users find their way around our site?
- **SKELETON:** Now that we know what's required and how information is organized, how do we map it on the page so that it is easy to use and understand?
- **SURFACE:** What design elements and principles do we need to apply not only for it to be appealing but to communicate our message to the users of this site?

## 2. The Production Phase

Once we know what we will be making and what it will look like, this phase will take you behind the scenes of the web browser. We will learn about the key web technologies that are the basic building blocks of a web page:

- **Hypertext Markup Language (HTML):** The structural and content components of your web page, e.g. text, links, images, videos, etc.
- **Cascading Style Sheets (CSS):** Rules for the style and presentation of your web page, e.g. typography, color, layout, etc.

You might have guessed, this phase is a technical one (you will learn how to code HTML and CSS). So be prepared to deep-dive and get your hands dirty with the code editor!

## OBJECTIVES AND SKILLS

1. **Web Design Principles:** Web usability, and best practices that serve as guidelines to design a better website.
2. **Design Methodologies:** Standard activities and deliverables common to the web design process with emphasis on user experience methodologies. This will serve as a practical toolkit to employ in any web project. You will learn the importance of user research and personas, information architecture, wireframing and prototyping.
3. **Essential HTML & CSS:** Web-based languages that are the foundational building blocks of any website. This knowledge will help you realize your design in the web medium. At the very least, you will come out of this course being able to build a simple, static website.

## METHODOLOGY

This course relies on developing skills through hands-on exercises, while time dedicated to the essential theory will serve as the basis for the practical activities. Often, the first part of the sessions will aim to introduce new concepts in order to lay some groundwork for subsequent exercises and assignments.

In the **design phase**, the sessions will resemble a workshop environment; you will be working in groups for the most part, having the opportunity to progress on your group project during these guided sessions. After each of the weekly workshops, there will be expected deliverables and outcomes (depending on the activity, in the form of notes, worksheets, slide decks, images, presentations decks, etc.) that make up the class assignments evaluation criteria. Additional time (ranging 2-5 days) will be permitted to refine and/or extend the workshop deliverables before submitting them. Therefore, it is strongly advised to invest your efforts in tackling the assignments during the allocated workshop time, and in turn, reduce the workload required outside of them. At the end of the design phase, you will be submitting the compiled deliverables you have been producing throughout the sessions in a presentation format.

During the **production phase**, the session content and activities will be of a technical nature. We will walk-through new topics, and at intervals, you will be tasked with technical challenges before moving forward. Due to the challenges posed in this phase, the sessions' content outlined in the syllabus may be adapted to suit the collective progress of the class, i.e. if it is deemed unfeasible to cover the more advanced topics outlined in this phase, slight adaptations will be made to ensure that the minimum learning objectives are properly fulfilled. Throughout this phase, you will be working in pairs to create a simple, informational website about a topic of choice. Additionally, to allow for individual assessment, you will sit an examination at the end of this phase to test your grasp on the basic knowledge and concepts obtained during this phase.

A small overlap will occur between the 2 phases to allow time for you to prepare the final Website Design Project presentation at the end of phase 1.

It will always be assumed that you are prepared before each session by completing the readings and/or tutorials assigned beforehand. Preparation materials will be related to the sessions' content they are assigned for. To demonstrate the upkeep of class prep, you will be asked to provide a few bullet points with questions, comments, and/or observations relating to the preparation materials before coming to class.

Teaching methodology	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	13.33 %	20 hours
Discussions	6.67 %	10 hours
Exercises	30.0 %	45 hours
Group work	30.0 %	45 hours
Other individual studying	20.0 %	30 hours
TOTAL	100.0 %	150 hours

## PROGRAM

### SESSION 1 (LIVE IN-PERSON)

#### Begin Design Phase

#### Introduction to Web Design

- Course Orientation and Expectations
- Essential Tools and Workflows
- Web Development Process Overview
- Project Brainstorm and Brief

## **SESSION 2 (LIVE IN-PERSON)**

### **Begin Design Phase**

#### **Introduction to Web Design**

- Course Orientation and Expectations
- Essential Tools and Workflows
- Web Development Process Overview
- Project Brainstorm and Brief

## **SESSION 3 (ASYNCHRONOUS)**

### **The Strategy Plane**

- Web Project Planning: Defining site objectives, target audience, and success metrics
- User-Centered Research: Interviews and User Personas

*Book Chapters: The Elements of User Experience, Ch. 1, 2 & 3 (See Bibliography)*

#### **Preparation prior to sessions**

##### **Read**

- The Elements of User Experience, Ch. 1 – User Experience and Why it matters
- The Elements of User Experience, Ch. 2 – Meet the Elements
- The Elements of User Experience, Ch. 3 – The Strategy Plane

##### **Submit**

- Group Work: Project Brief

## **SESSION 4 (LIVE IN-PERSON)**

### **The Strategy Plane**

- Web Project Planning: Defining site objectives, target audience, and success metrics
- User-Centered Research: Interviews and User Personas

*Book Chapters: The Elements of User Experience, Ch. 1, 2 & 3 (See Bibliography)*

#### **Preparation prior to sessions**

##### **Read**

- The Elements of User Experience, Ch. 1 – User Experience and Why it matters
- The Elements of User Experience, Ch. 2 – Meet the Elements
- The Elements of User Experience, Ch. 3 – The Strategy Plane

##### **Submit**

- Group Work: Project Brief

## **SESSION 5 (LIVE IN-PERSON)**

### **The Scope Plane**

- Research Synthesis
- Requirements Gathering and Prioritization
- Task Analysis & User Flows

*Book Chapters: The Elements of User Experience, Ch. 4 (See Bibliography)*

**Preparation prior to sessions**

**Read**

- The Elements of User Experience, Ch. 4 – The Scope Plane

**Submit**

- Group Work: Project Plan & User Research

## **SESSION 6 (ASYNCHRONOUS)**

### **The Scope Plane**

- Research Synthesis
- Requirements Gathering and Prioritization
- Task Analysis & User Flows

*Book Chapters: The Elements of User Experience, Ch. 4 (See Bibliography)*

**Preparation prior to sessions**

**Read**

- The Elements of User Experience, Ch. 4 – The Scope Plane

**Submit**

- Group Work: Project Plan & User Research

## **SESSION 7 (LIVE IN-PERSON)**

### **The Structure Plane**

- Information Architecture
- Card sorting
- Site structure
- Web Navigation

*Book Chapters: Web Style Guide*

*Book Chapters: The Elements of User Experience, Ch. 5 – The Structure Plane (See Bibliography)*

**Preparation prior to sessions**

**Read**

- The Elements of User Experience, Ch. 5 – The Structure Plane
- Web Style Guide, Ch. 3 - Information Architecture

**Submit**

- Group Work: Use-cases and User Flows, Website Requirements

## **SESSION 8 (LIVE IN-PERSON)**

### **The Structure Plane**

- Information Architecture
- Card sorting
- Site structure
- Web Navigation

*Book Chapters: The Elements of User Experience, Ch. 5 – The Structure Plane (See Bibliography)*

*Book Chapters: Web Style Guide, Ch. 3 - Information Architecture*

### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 5 – The Structure Plane
- Web Style Guide, Ch. 3 - Information Architecture

#### **Submit**

- Group Work: Use-cases and User Flows, Website Requirements

## **SESSION 9 (ASYNCHRONOUS)**

### **The Skeleton Plane I**

- Types of Web Pages
- Web page conventions
- Navigation Design, Interface Design, and Information Design
- Page Layout and designing with a grid
- Intro to Responsive Web Design (RWD)
- Sketching & Wireframing

*Book Chapters: The Elements of User Experience, Ch. 6 – The Skeleton Plane (See Bibliography)*

*Book Chapters: Don't Make Me Think!, Ch. 1 - Don't Make Me Think (See Bibliography)*

### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 6 – The Skeleton Plane
- Don't Make Me Think!, Ch. 1 - Don't Make Me Think

#### **Submit**

- Group Work: Site map & Navigation Plan

## **SESSION 10 (LIVE IN-PERSON)**

### **The Skeleton Plane I**

- Types of Web Pages
- Web page conventions
- Navigation Design, Interface Design, and Information Design
- Page Layout and designing with a grid
- Intro to Responsive Web Design (RWD)
- Sketching & Wireframing

### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 6 – The Skeleton Plane
- Don't Make Me Think!, Ch. 1 - Don't Make Me Think

#### **Submit**

- Group Work: Site map & Navigation Plan

## **SESSION 11 (LIVE IN-PERSON)**

### **The Skeleton Plane II**

- Responsive Web Design Continued
- Prototyping and Testing

*Article: Luke Wroblewski: Multi-Device Layout Patterns (Lukew Ideation + Design, March 14, 2012)*

*Book Chapters: Don't Make Me Think!, Ch. 3 & Ch. 6 (See Bibliography)*

### **Preparation prior to sessions**

#### **Read**

- Don't Make Me Think!, Ch. 3 - Billboard Design 101
- Don't Make Me Think!, Ch. 6 - Street signs and Breadcrumbs
- Multi-Device Layout Patterns

#### **Submit**

- Group Work: Sketches & Wireframes

## **SESSION 12 (ASYNCHRONOUS)**

### **The Skeleton Plane II**

- Responsive Web Design Continued
- Prototyping and Testing

*Book Chapters: Don't Make Me Think!, Ch. 3 & Ch. 6 (See Bibliography)*

### **Preparation prior to sessions**

#### **Read**

- Don't Make Me Think!, Ch. 3 - Billboard Design 101
- Don't Make Me Think!, Ch. 6 - Street signs and Breadcrumbs
- Multi-Device Layout Patterns

#### **Submit**

- Group Work: Sketches & Wireframes

## **SESSION 13 (LIVE IN-PERSON)**

### **The Surface Plane**

- Design Elements and Principles
- Typography Basics
- Color Theory
- Web Page Mockups

*Article: A Comprehensive Guide to Typography Basics (Web Design, Jun 9, 2016)*

*Article: Using Light, Color and Contrast Effectively in UI Design (usabilitypost)*

### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 7 – The Surface Plane
- Using Light, Color, and Contrast Effectively in UI Design
- A Comprehensive Guide to Typography Basics

**Submit**

- Group Work: Interactive Prototype and Testing Feedback

## **SESSION 14 (LIVE IN-PERSON)**

### **The Surface Plane**

- Design Elements and Principles
- Typography Basics
- Color Theory
- Web Page Mockups

### **Preparation prior to sessions**

**Read**

- The Elements of User Experience, Ch. 7 – The Surface Plane
- Using Light, Color, and Contrast Effectively in UI Design
- A Comprehensive Guide to Typography Basics

**Submit**

- Group Work: Interactive Prototype and Testing Feedback

## **SESSION 15 (LIVE ONLINE)**

### **Begin Production Phase**

#### **Introduction to the Web & HTML**

- How the web works?
- What is HTML?
- The HTML Document
- HTML Essentials: Elements and Tags

*Multimedia Documentation: Codecademy: Learn HTML*

### **Preparation prior to sessions**

**Complete**

- Learn HTML, Unit 1: HTML Elements and Structure (Intro to HTML, Common Elements)

## **SESSION 16 (LIVE IN-PERSON)**

### **Begin Production Phase**

#### **Introduction to the Web & HTML**

- How the web works?
- What is HTML?
- The HTML Document
- HTML Essentials: Elements and Tags

### **Preparation prior to sessions**



### **Complete**

- Learn HTML, Unit 1: HTML Elements and Structure (Intro to HTML, Common Elements)

## **SESSION 17 (LIVE IN-PERSON)**

### **End Design Phase**

#### **The Elements Applied**

- PROJECT PRESENTATIONS

#### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 8 – The Elements Applied

#### **Submit**

- Group Work: Presentation Deck with final web page mockups

## **SESSION 18 (LIVE IN-PERSON)**

### **End Design Phase**

#### **PRESENTATIONS**

#### **Preparation prior to sessions**

#### **Read**

- The Elements of User Experience, Ch. 8 – The Elements Applied

#### **Submit**

- Group Work: Presentation Deck with final web page mockups

## **SESSION 19 (ASYNCHRONOUS)**

### **Introduction to CSS**

- What is CSS?
- CSS Essentials: Selectors and basic properties
- Linking CSS to HTML

*Multimedia Documentation: Codecademy: Learn CSS*

#### **Preparation prior to sessions**

#### **Complete**

- Learn CSS, Unit 1: CSS Selectors and Visual Rules (CSS Setup and Selectors, CSS Visual Rules)

#### **Submit**

- Pairing for HTML & CSS Website Project

## **SESSION 20 (LIVE IN-PERSON)**

### **Introduction to CSS**

- What is CSS?
- CSS Essentials: Selectors and basic properties
- Linking CSS to HTML

#### **Preparation prior to sessions**

##### **Complete**

- Learn CSS, Unit 1: CSS Selectors and Visual Rules (CSS Setup and Selectors, CSS Visual Rules)

##### **Submit**

- Pairing for HTML & CSS Website Project

## **SESSION 21 (ASYNCHRONOUS)**

### **HTML Structure and CSS Layout**

- HTML Structural Elements and Nesting
- CSS Layout Properties and the Box Model

*Multimedia Documentation: Codecademy: Learn CSS*

#### **Preparation prior to sessions**

##### **Complete**

- Learn CSS, Unit 2: The Box Model (The Box Model, Changing the Box Model)
- Learn CSS, Unit 3: CSS Display and Positioning (Css Display and Positioning)

##### **Submit**

- Pair Work: Website Outline

## **SESSION 22 (LIVE IN-PERSON)**

### **HTML Structure and CSS Layout**

- HTML Structural Elements and Nesting
- CSS Layout Properties and the Box Model

#### **Preparation prior to sessions**

##### **Complete**

- Learn CSS, Unit 2: The Box Model (The Box Model, Changing the Box Model)
- Learn CSS, Unit 3: CSS Display and Positioning (Css Display and Positioning)

##### **Submit**

- Pair Work: Website Outline

## **SESSION 23 (LIVE IN-PERSON)**

### **Responsive Web Design**

- Types of Layouts Revisited: Static, Adaptive, Fluid, and Responsive
- Media Queries

*Article: Ethan Marcotte Responsive Web Design (A List Apart, May 25, 2010)*

#### **Preparation prior to sessions**

### **Read**

- learnlayout.com
- A List Apart - Responsive Web Design

## **SESSION 24 (ASYNCHRONOUS)**

### **Responsive Web Design**

- Types of Layouts Revisited: Static, Adaptive, Fluid, and Responsive
- Media Queries

### **Preparation prior to sessions**

### **Read**

- learnlayout.com
- A List Apart - Responsive Web Design

## **SESSION 25 (LIVE IN-PERSON)**

### **Design Refinement with CSS**

- CSS Typography
- CSS Color
- Embedding Web Fonts
- Pseudo Classes

*Multimedia Documentation: Codecademy: Learn CSS*

### **Preparation prior to sessions**

### **Complete**

- Learn CSS, Unit 4: CSS Color
- Learn CSS, Unit 5: CSS Typography

## **SESSION 26 (LIVE IN-PERSON)**

### **Design Refinement with CSS**

- CSS Typography
- CSS Color
- Embedding Web Fonts
- Pseudo Classes

### **Preparation prior to sessions**

### **Complete**

- Learn CSS, Unit 4: CSS Color
- Learn CSS, Unit 5: CSS Typography

## **SESSION 27 (ASYNCHRONOUS)**

### **Going Live**

- How the web works revisited
- Publishing your site
- Recap Opportunity

## **SESSION 28 (LIVE IN-PERSON)**

### **Going Live**

- How the web works revisited
- Publishing your site
- Recap Opportunity

## **SESSION 29 (LIVE ONLINE)**

### **Wrapping Up**

- HTML & CSS Individual Examination
- Web Project Showcase

### **Preparation prior to sessions**

#### **Submit**

- Pair work: Link to Published Website or Website Project Folder

## **SESSION 30 (LIVE ONLINE)**

### **Wrapping Up**

- HTML & CSS Individual Examination
- Web Project Showcase

### **Preparation prior to sessions**

#### **Submit**

- Pair work: Link to Published Website or Website Project Folder

## **BIBLIOGRAPHY**

### **Recommended**

- Jesse James Garrett. *The Elements of User Experience: User-Centered Design for the Web and Beyond*. ISBN 0321683684 (Digital)

- Steve Krug. *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability*. ISBN 9780321965516 (Digital)

## **EVALUATION CRITERIA**

There are in total 5 evaluation criteria for this course, 2 of which pertain to the Design Phase (Workshop Deliverables and Website Design Project), another 2 pertaining to the Production Phase (HTML Website Project and HTML&CSS Exam) while participation will be evaluated throughout the duration of the course.

It is important to keep in mind that each criterion must be fulfilled, i.e. you may not rely on the evaluated sum of a subset to pass the course while failing to deliver on others. Failure to submit deliverables or failure to turn up to the examination without appropriate reasoning will result in failure of the course.

Criteria	Percentage	Comments
Attendance & Participation	20 %	
Workshop Deliverables	20 %	
Website Design Project	20 %	
HTML Website Project	25 %	
HTML & CSS Exam	15 %	

### **Attendance & Participation**

[Individual Grading] You are expected to come to class. It is mandatory to attend 70% of the classes. Students who do not comply with this percentage of attendance lose the 1st and 2nd exams and go directly to the 3rd one. 10% percent of your grade will be objectively calculated based on your attendance according to the following rubric:

- 5 / 9 absences, the maximum allowed before you automatically fail the class
- 6 / 8 absences
- 6.5 / 7 absences
- 7 / 6 absences
- 7.5 / 5 absences
- 8 / 4 absences
- 8.5 / 3 absences
- 9 / 2 absences
- 9.5 / 1 absence
- 10 / -: 0 absences

Participation (10%) will be determined based on the quality and proactiveness of the contribution you make during in-class and online discussions. This is partly determined from key points related to preparation materials before each session. Extra consideration is given if you also contribute external references and/or examples.

### **Workshop Deliverables**

[Group Grading\*] This criterion is based on the quality and completeness of the outcomes from in-class activities. The activities and deliverables carried out here will contribute to your final Website Design Project presentation. Depending on the activity, you may be expected to carry out additional exercises outside of class before submitting the deliverables. The grades given for each deliverable will be averaged out for this criterion.

### **Website Design Project**

[Group Grading\*] During the Design Phase, you will be asked (as a group) to conceive, plan, and design a website from scratch. The in-class workshop activities are dedicated for your specific projects, therefore it is assumed that you will already have ample time to prepare for this presentation. This criterion is based on the presentations delivered as a group. The submission is essentially a culmination of the workshop deliverables refined into a presentation format submitted at the end of the design phase.

### **HTML Website Project**

[Group Grading\*] This assignment pertains to the production phase of the course. This is another group project but is independent of the design phase, i.e. you will be forming a new, but smaller, workgroup (in pairs). This assignment will test your HTML&CSS knowledge and skill sets obtained during the implementation phase. You will be asked to code a simple, informational website based on a topic of choice that will be published and showcased during the last session.

### **HTML & CSS Examination**

[Individual Grading] This is another criterion pertaining to the production phase. The examination will take place during the second last session of the course and will serve as an individual evaluation criterion to ensure the minimum learning objectives of the course have been achieved. The exam will focus on basic concepts of HTML and CSS, e.g. syntax, basic terminology, and essential components, the learnings of which should have been obtained by completing assigned tutorials and following the in-class content and exercises. Successfully completing the HTML Website Project should also ensure your ease of fulfilling this criterion.

*\*Naturally, grade outputs of any group submission will be equally distributed to all group members, therefore you are expected to be responsible for the effort allocation amongst each group member.*

### **Extraordinary Examination (Retake Policies)**

In order to pass the course, students must fulfill the requirements during the semester with a minimum grade of 5.0 (Five) and 70% attendance. If a student does not pass the “ordinary session” of the course but fulfilled the attendance requirements, he or she is entitled to an extraordinary examination session at the end of the same academic year. Only students who failed the course because of attendance are not given the opportunity of a retake session and must repeat the course.

In the extraordinary examination period, students will be asked to submit a similar set of deliverables to the group project from the design phase of the ordinary examination period, however with a reduced scope fitted for individual submission. Instead of conceiving an entirely new web project, the student will be assigned an existing website to redesign. Additionally, the student will have to take an HTML&CSS examination to demonstrate learning objectives of the implementation phase.

The breakdown of the deliverables will be as follows:

<b>Website Redesign Project</b>	<b>60%</b>
Evaluation and critique of current website	25%
Contextual Research: task analysis	25%
Site Structure diagram	25%
Wireframe and mockups of the new design	25%
<b>HTML &amp; CSS Examination</b>	<b>40%</b>

The maximum grade that can be given for the extraordinary examination is 8. The passing grade is 5.0 (five) and it is not averaged with the ordinary session’s grade.

## **PROFESSOR BIO**

Professor: **ROBERT DAVID POLDING**

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## **Dr Robert Polding**

Dr Polding holds a PhD and MSc in Information Systems from The University of Sheffield and a BSc (Hons) in Media Science from Sheffield Hallam University. Research interests include augmented and mixed reality, e-commerce, web applications, RFID and database technologies. Lecturer in database design, information systems modelling, project management, international business administration, programming and big data. Previous jobs include working as a company director, project manager, programmer and journalist.

### **OTHER INFORMATION**

#### **Contact**

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