INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Web Development I			Field of study	Computer Science		
Bachelor in	Informatics and Communications			School	School of Public Management, Communication and Tourism		
Academic Year	2023/2024	Year of study	1	Level	1-1	ECTS credits	6.0
Type	Semestral	Semester	2	Code	9188-320-1203-00-23		

Workload (hours)	162	Contact hours	T	TP	PL	TC	S	E	OT	O
			15	-	45	-	-	-	20	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s): Silvia de Castro Pereira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Know the concept of hypertext and hypermedia.
2. Know the history of the World Wide Web.
3. Create and validate documents based on markup languages.
4. Understand the standards of the World Wide Web Consortium (W3C).
5. Be able to program in JavaScript language.
6. Know and apply the language of markup to the specification of the format, structure and content.
7. Know the issues related to web browsers.

Prerequisites

Before the course unit the learner is expected to be able to:
Apply basic knowledge of programming languages

Course contents

1. INTERNET. 2. WORLD WIDE WEB. 3. HTML. 4. CSS. 5. JAVASCRIPT.

Course contents (extended version)

1. INTERNET:
   - Emergence of the Internet,
   - original concepts of the Internet
   - TCP/IP (Transmission Control Protocol / Internet Protocol)
   - Interconnection Network
   - Addresses
   - DNS (Domain Name Server)
2. WORLD WIDE WEB:
   - Introduction Model WWW (World Wide Web)
   - URL (Uniform Resource Locator)
   - Communication Client / Server
   - Hypertext
   - Hypermedia and Multimedia
   - Markup languages
   - Client side and server side programming languages.
3. HTML (HyperText Markup Language):
   - Editors of HTML (HyperText Markup Language)
   - Elements and tags (attributes, symbols and special characters, comments)
   - Basic structure of an HTML (HyperText Markup Language) document
   - Colors
   - Text
   - Tables
   - Images
   - Links
   - Frames
   - Validation of HTML (HyperText Markup Language) and accessibility.
4. CSS (Cascading Style Sheets):
   - Basic Concepts
   - Syntax used in the definition of styles
   - Units of measure
   - Grouping
   - Chaining and inheritance
   - Properties common to several elements
   - Pseudo-classes and pseudo-elements
   - Model Format, Color, Types Font, Text Formatting
   - Lists and Labels
   - Other effects of style, reference queries
5. JavaScript:
   - Introduction and basic concepts
   - Working with Objects
   - Location of scripts,
   - Expressions and operators
   - Functions
   - Flow control structures
   - Objects
   - Properties and methods. Events.
   - Document object model.
   - Interaction with forms.

Recommended reading

1. Abreu, L. (2013). JAVASCRIPT. FCA. ISBN: 978-972-722-785-3
2. Abreu, L. (2015). HTML5. FCA. ISBN: 978-972-722-821-8
3. Carey, P. M. (2017). New Perspectives on HTML5, CSS3, and JavaScript. Cengage Learning. ISBN: 978-1305503922
4. Remoaldo, P. (2011). CSS 3. FCA. ISBN: 978-972-722-731-0

Recommended reading

5. w3schools. (s. d.). Obtido de w3schools: http: //www. w3schools. com/

Teaching and learning methods

- Theoretical classes: where are exposed the theoretical concepts associated with this curriculum unit. - Classes of laboratory practice: lessons, which is shown through simulation and testing the concepts already developed. - Worksheet: Implementation of individual sheets that contribute to the understanding and application of knowledge and to formulate opinions.

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final)
   - Intermediate Written Test - 25% (First part of the UC content. Minimum Grade: 7 values.)
   - Intermediate Written Test - 25% (Second part of the UC content. Minimum Grade: 7 values.)
   - Projects - 50% (Development of a group project. Minimum Grade: 7 values.)
2. Final assessment - (Regular, Student Worker) (Final, Supplementary, Special)
   - Final Written Exam - 50% (All UC content. Minimum Grade: 7 values.)
   - Projects - 50% (Development of a group project. Minimum Grade: 7 values.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

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28-02-2024	28-02-2024	28-02-2024	12-03-2024