University Abdelhamid Mehri – Constantine 2
Faculty of New Information and Communication Technologies - NTIC
2023-2024. 1st Semester

Course Syllabus [CAW]	
Course title: Web Application Design	**Course code:** CAW
Course level: Master 1	**Course prerequisites:** DAW1 and DAW2
Course duration: 12 weeks	**Tools used:** VS Code

Teaching Staff			
Name	**Rank**	**Faculty**	**E-mail address**
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Students concerned			
Faculty	**Department**	**Year**	**Option**
New Technologies NTIC	IFA	Master 1	STIC

Course outlines

This course introduces the basic concepts needed to design fullstack web applications, with an emphasis on the front-end, concerned with presentation and user interface. The course will introduce a JavaScript-based front-end framework from among: ReactJS, VueJS or AngularJS. The hands-on workshops will put these concepts into practice.

Course information

Web Application Design [CAW]	
Level	1st year Master's (M1)
Specialization	Information and Communication Sciences and Technologies - STIC
Semester	S1
Teaching Unit	Methodology TU
Credits	5
Coefficient	4

Prerequisites

Students will need to have mastered the basic concepts of web development from course DAW1 (L2-MI S4) and DAW1 (L3-TI S6) to be able to take this course.

It is recommended that learners have:

- Familiarity with HTML for structuring web content, CSS for styling and a basic understanding of JavaScript is important.
- A general understanding of how web applications work, including the client-server architecture and HTTP requests.

Objectives

- Understand the core web technologies, including HTML, CSS, and JavaScript, and their roles in web development.
- Apply advanced JavaScript concepts, including ES6 to design the frontend of an adaptive web application.
- Comprehend the React framework to structure the front end of a single-page web application with ReactJS.
- Implement React lifecycle methods and make informed decisions about component behavior and optimization.
- Get-ready to the back-end development.

Teaching methods

Weekly timetable	
Lectures: 1h30	**Tutorials:** 0h
Worksops (Labs): 1h30	**Personal work:** 1h30
Total: 4h30	

Course schedule

Chapter # weeks	
Chapter1 – HTML, CSS, Javascript web technologies	(02)
Chapter2 - Advanced JavaScript concepts	(02)
Chapter3 - Introduction to the React framework	(01)
Chapter4 - Front end React development	(03)
Chapter5 - React lifecycle methods	(01) to (02)
Chapter6 - React router	(02) to (03)
Total	**11 to 13**

Hands-on Workshop schedule

The practical exercises, in line with the course chapters, are developed using an HTML editor (VS code) and the tools studied in class. The approximate content is described by:

Chapter # weeks	
HTML, CSS, JavaScript review	(02)
Training on various web tools	(02)
Introduction to NodeJS and NPM	(01)
Develop with Create-React-App	(03)
Single-page application in React	(01) to (02)
Synthesis project	(02) to (03)
Total	**11 to 13**

Evaluation policies

The student's performance during the semester will be evaluated based on his or her results in the various assessments (Exam, workshops tests).
Attendance and participation in hands-on sessions will also be considered.

- Final Exam = 70%
- Workshop test & Attendance = 30%

Course policies

- Throughout the course, your progress will be continuously assessed during hands-on workshops.
- The final exam will be a synthesis test (covering all chapters of the course). It will evaluate learners ability to synthesize and apply the knowledge and skills gained throughout the course.
- The mode of workshop test (written exam or practical) will be determined according to the progress of workshops.

Contact

adil.chekati@univ-constantine2.dz
The email should be concrete and clear. The subject of the e-mail must be specified.
I undertake to reply by email within 48 hours of receiving the message (except in the case of unforeseen circumstances).

References

Duckett, Jon. *HTML and CSS: Design and Build Websites*. Wiley & Sons, 2011.
Haverbeke, Marijn. *Eloquent Javascript: A Modern Introduction to Programming, 3rd Edition*, 2019.

Online Resource: Mozilla Developer Network- *HTML, CSS, and JavaScript documentation* (https://developer.mozilla.org/en-US/docs/Web)
JavaScript ES6 Features Overview (https://es6.io/)

Official Documentation: *React.js* (https://reactjs.org/docs/getting-started.html)