Syllabus

1. Programme information

1.1. Institution	THE BUCHAREST UNIVERSITY OF ECONOMIC STUDIES
1.2. Faculty	Economic Cybernetics, Statistics and Informatics
1.3. Departments	Department of Economic Informatics and Cybernetics
1.4. Field of study	Economic Cybernetics, Statistics and Informatics
1.5. Cycle of studies	Bachelor
1.6. Education type	Full-time
1.7. Study programme	Statistics and Economic Forecasting
1.8. Language of study	Romanian
1.9. Academic year	2024-2025

2. Information on the discipline

2.1. Name	**Web Technologies**								
2.2. Code	**24.0204IF3.1-07.4**								
2.3. Year of study	**3**	2.4. Semester	**1**	2.5. Type of assessment	**Test**	2.6. Status of the discipline	**Optional**	2.7. Number of ECTS credits	**4**

2.8. Leaders	Lectures (C)	**Associate professor TOMA Andrei**	andrei.toma@ie.ase.ro
	Seminars (S)	**Associate professor TOMA Andrei**	andrei.toma@ie.ase.ro

3. Estimated Total Time

3.1. Number of weeks	14.00		
3.2. Number of hours per week	3.00	of which	
		Lectures(C)	2.00
		Seminars(S)	1.00
3.3. Total hours from curriculum	42.00	of which	
		Lectures(C)	28.00
		Seminars(S)	14.00
3.4. Total hours of study per semester (ECTS*25)	100.00		
3.5. Total hours of individual study	58.00		
Distribution of time for individual study			
Study by the textbook, lecture notes, bibliography and student's own notes	15.00		
Additional documentation in the library, on specialized online platforms and in the field	10.00		
Preparation of seminars, labs, assignments, portfolios and essays	15.00		
Tutorials	2.00		
Examinations	2.00		
Other activities	14.00		

4. Prerequisites

4.1. of curriculum	Object oriented programming, Databases, Information technology basics
4.2. of competences	

5. Conditions

for the Lectures(C)	The lectures take place in room with internet access and multimedia teaching equipment
for the Seminars(S)	The tutorials take place in IT labs with internet access and with the appropriate infrastructure for web application development

6. Acquired specific competences

Professional	C3	The use of statistical and econometric software for economic and social research

7. Objectives of the discipline

7.1. General objective	Understanding large scale use web technologies, the principles of web programming and the fundamental paradigms used in web application development
7.2. Specific objectives	Gaining and applying operative knowledge relating to web application development.

8. Contents

8.1. Lectures(C)		Teaching/Work methods	Recommendations for students
1	Introduction. The objectives of the course, obtainable competencies, methods of collaboration, documentation sources and evaluation procedure. Basic web concepts. The HTTP protocol	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
2	The architecture of the browser. Web addresses. HTML – a structure definition language	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
3	CSS(1) – CSS as a presentation definition language. CSS selectors, specificity	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
4	CSS(2) – the web page rendering mechanism. The CSS drawing flow. Element positioning	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
5	Javascript(1) as a multiparadigm language. Data types, control structures	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
6	Javascript (2). The objectual model. The functional model.	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	

7	Asynchronous programming	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
8	Server-side Javascript. REST services. REST API’s	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
9	Storing data with ORM	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
10	Single page apps	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
11	Web interfaces(1)	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
12	Web interfaces(2)	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
13	External service integration	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
14	Web application security	Lecture with PowerPoint slides and access to internet resources. Dialogue with the students.	
15			

Bibliography

- David Sawyer McFarland, CSS: The Missing Manual 4th Edition, O'Reilly Media, 2015
- Matthew MacDonald, HTML5: The Missing Manual (Missing Manuals) Second Edition, O'Reilly Media, 2014
- Toma Andrei, Inregistrari curs - Tehnologii web, 2022, https://www.youtube.com/watch?v=lhLzTkBHQDw&list=PLYdpEVB86eG6IDpm0siSVxY7He6gnJs_E
- Joe Morgan, Simplifying JavaScript: Writing Modern JavaScript with ES5, ES6, and Beyond, Pragmatic Bookshelf, 2018
- Toma Andrei, Suport curs - Tehnologii web, 2022, https://online.ase.ro
- Ethan Brown, Web Development with Node and Express: Leveraging the JavaScript Stack1st Edition, O'Reilly Media, 2014

8.2. Seminars(S)		Teaching/Work methods	Recommendations for students
1	Code versioning software. Web analysis software	Assisted code development.	
2	HTML-practical exercises	Assisted code development.	
3	CSS-practical exercises	Assisted code development.	
4	Javascript-practical exercises	Assisted code development.	
5	Node.js-practical exercises	Assisted code development.	
6	Practical exercises (web interfaces)	Assisted code development.	
7	Project presentation	Project presentation	

Bibliography

- David Sawyer McFarland, CSS: The Missing Manual 4th Edition, O'Reilly Media, 2015
- Matthew MacDonald, HTML5: The Missing Manual (Missing Manuals), O'Reilly Media, 2014
- Toma Andrei, Inregistrari curs - Tehnologii web, 2022, https://www.youtube.com/watch?v=lhLzTkBHQDw&list=PLYdpEVB86eG6IDpm0siSVxY7He6gnJs_E
- Joe Morgan, Simplifying JavaScript: Writing Modern JavaScript with ES5, ES6, and Beyond, Pragmatic Bookshelf, 2018
- Toma Andrei, Suport curs - Tehnologii web, 2022, https://online.ase.ro
- Ethan Brown, Web Development with Node and Express: Leveraging the JavaScript Stack1st Edition, O'Reilly Media, 2014

9. Corroboration of the contents of the discipline with the expectations of the representatives of the epistemic community, of the professional associations and representative employers in the field associated with the programme

Discussion of the content of the course and of the minimal requirements with specialists from the business environment.

10. Assessment

Type of activity	Assessment criteria	Assessment methods	Percentage in the final grade
10.1. Seminars(S)	The ability to respect the requirements and to apply the covered technologies is evaluated.	Building a team project.	50.00
10.2. Final assessment	The capacity to find solutions to the required problems is graded	Written exam on the computer	50.00
10.3. Modality of grading	Whole notes 1-10		
10.4. Minimum standard of performance	5 (passing grade) – Building a simple web application with database access, style elements and Javascript + at least 50% of the written exam score.		

Date of listing,
11/09/2026

Signature of the discipline leaders,

Date of approval in the department

Signature of the Department Director,