



## SYLLABUS

### 1. Study programme

1.1. Higher education institution	„Aurel Vlaicu” University of Arad
1.2. Faculty	of Exact Sciences
1.3. Department	Department of Mathematics and Computer Science
1.4. Field of study	Informatics
1.5. Study level	2024-2025
1.6. Study cycle	Bachelor
1.7. Study programme / Qualification	Computer Science
1.8. Form of education	Full – Time study

### 2. Course details

2.1. Name of the course	GIAS1005 Development of WEB Applications
2.2. Course coordinator	PhD Crăciun Mihaela-Daciana
2.3. Seminar/laboratory/project coordinator	IT Specialist Țerei Carmen
2.4. Study year	1
2.5. Semester	1
2.6. Evaluation type	ES
2.7. Course type	Ob

### 3. Estimated total time (hours per semester)

3.1. Hours per week	4
3.2. Lecture hours per week	2
3.3. Seminar/laboratory/project hours per week	2
3.4. Total hours per curriculum	56
3.5. Lecture hours per semester	28
3.6. Seminar/laboratory/project hours per semester	28
Time division [hrs]	
3.4.1. Independent study from textbooks, course support, bibliography and notes	94
3.4.2. Additional reading (libraries, specialized electronic platforms and field research)	0
3.4.3. Preparing of seminars/laboratories/projects, homework, papers, portfolios and essays	0
3.4.4. Tutorial coaching	0
3.4.5. Examinations	0
3.4.6. Other activities	0
3.7. Total individual study hours	94
3.8. Total hours per semester	150
3.9. Number of ECTS credits	6

### 4. Prerequisites (if applicable)

4.1. Curriculum related	
4.2. Competence related	

### 5. Conditions (if applicable)

5.1. for the lecture	Classroom equipped with laptop, projector, Internet connection and adapted software - Power Point, Word, database and programming software.
5.2. for the seminar	Classroom equipped with laptop, projector, Internet connection and adapted software - Power Point, Word, database and programming software.
5.3. for the laboratory	
5.4. for the project	

### 6. Specific educational objectives (competences to be acquired)

6.1. Professional competencies	C1.Programming in high level programming languages; C2.Development and maintenance of computer applications; C4.Using the theoretical bases of computers and formal models;
6.2. Transversal competencies	CT1.Applying the rules of organized and efficient work, of responsible attitudes towards teaching-scientific field, to value the own creative potential, while respecting the principles and norms of professional ethics.

### 7. Course outcomes (resulting from the specific educational objectives to be acquired)

7.1. General outcomes	Students will learn general concepts of web design. To develop students' ability to correctly apply the knowledge they have acquired and to develop their analytical skills.
7.2. Specific outcomes	Students will be able to demonstrate that they have acquired sufficient knowledge to understand concepts such as HTML/XHTML language syntax, CSS, Java Script and PHP.

### 8. Outline (if applicable)

8.1 Lecture Outline	Teaching methods	Remarks
Internet - History of the Internet - Data transmission - Communication protocols - Internet services - WWW	interactive presentation, heuristic conversation, exemplification	2 h
HTML - structure of an HTML document - markup for text and paragraph formatting - unordered, ordered and definition lists - internal and external references - images, image maps - tables - forms	interactive presentation, exemplification, web documentation, problem solving	8 h
Cascading Style Sheets - CSS3 - formatting styles - CSS selectors - meaning, selector types - CSS properties - structure, property categories	interactive presentation, exemplification, web documentation, problem solving, debate	6 h
PHP - PHP script structure - simple data types, constants, variables, operators and expressions - control structures - PHP statements - defining functions - character strings - arrays	interactive presentation, exemplification, web documentation, problem solving, debate	10 h
JavaScript JavaScript Syntax - Variables and Constants -Operators - Instructions - Functions - Alert Prompt and Confirm Windows	interactive presentation, exemplification, web documentation, problem solving, debate	2 h
8.2 Lecture References [1] Luke Welling, Laura Thomson, PHP and MySQL Web Development, Fifth Edition,aPearson Education Inc.,USA, 2016 [2] Marijn Haverbeke, Eloquent JavaScript 3rd edition; 2018 [3]. V. Chiş, Tehnologii web, Editura Universităţii „Aurel Vlaicu” Arad, 2009 [4]. John Duckett, Web Design with HTML, CSS, JavaScript and jQuery Set; 2014 [5]. Luke Welling, Laura Thomson, PHP and MySQL Web Development, Fifth Edition, Pearson Education Inc.,USA, 2016. [6].** <a href="https://www.tutorialspoint.com/">https://www.tutorialspoint.com/</a>		
8.3 Seminar Outline	Teaching methods	Remarks
8.4 Seminar References		
8.5 Laboratory Outline	Teaching methods	Remarks
HTML - structure of an HTML document - markup for text and paragraph formatting - unordered, ordered and definition lists	exercise, application, problem solving, web documentation	4 h
HTML - internal and external links - images, image maps	exercise, application, problem solving, web documentation	4 h

HTML tables	exercise, application, problem solving, web documentation	2 h
HTML forms	exercise, application, problem solving, web documentation	4 h
In-line and header styles	exercise, application, problem solving, web documentation	2 h
External style sheets	exercise, application, problem solving, web documentation	4 h
PHP Scripts	exercise, application, problem solving, web documentation	8 h
8.6 Laboratory References [1]. Jeremy Keith, Rachel Andrew , HTML5 for Web Designers, Second Edition, 2nd Edition, 2018 [2]. Antonio Lopez, Learning PHP 7, Packt Publishing Ltd., 2016, ISBN 9781785880544. [3]. Jennifer Niederst Robbins, HTML5 Pocket Reference, 5th Edition, 2018 [4]. <a href="https://www.w3schools.com/">https://www.w3schools.com/</a>		
8.7 Project Outline	Teaching methods	Remarks
8.8 Project References		

**9. Correlation of course outline with the expectations of the epistemic community, professional associations and representative employers within the field of the program**

The subject content is in line with the content of similar subjects in other university centers in the country and abroad. In order to better adapt the content of the subject to the requirements of the labor market, meetings were held with both employers - representatives of the business environment and mathematics and computer science teachers from the pre-university education in Arad.

**10. Evaluation / Grading (if applicable)**

Activity type	Evaluation criteria	Evaluation methods	Percentage of the final grade
10.1. Lecture	<ul style="list-style-type: none"> <li>- accuracy and completeness of knowledge</li> <li>- logical coherence</li> <li>- degree of assimilation of specific language</li> <li>- conscientiousness, interest in study</li> </ul>	<ul style="list-style-type: none"> <li>- Oral assessment (final in the exam session): presentation of a final project through free student presentation and conversation assessment through oral questionnaires</li> <li>- Active participation in lectures</li> </ul>	40% 10%
10.2. Seminar			
10.3. Laboratory	<ul style="list-style-type: none"> <li>- the ability to operate with the assimilated knowledge;</li> <li>- ability to apply in practice</li> <li>- conscientiousness, interest in study</li> </ul>	<ul style="list-style-type: none"> <li>- Oral assessment (final in the exam session): completion and presentation of the final project</li> <li>- Homework, projects completed during the course</li> <li>- Active participation in laboratory classes</li> </ul>	20% 20% 10%
10.4. Project			
10.5 Minimal performance standard Learning fundamental concepts, using specialized language, making a simple application.			

Course coordinator  
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CRĂCIUN

Seminar/laboratory/project  
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IT Specialist Carmen  
ȚEREI

Head of the Department  
Lect.univ.dr. Lorena Camelia POPA

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