syllabus

1. Information regarding the programme

1.1 Higher education institution	**Babeş-Bolyai University**
1.2 Faculty	**Faculty of Mathematics and Computer Science**
1.3 Department	**Department of Computer Science**
1.4 Field of study	**Computer Science**
1.5 Study cycle	**Master**
1.6 Study programme / Qualification	**Baze de date - limba română**

2. Information regarding the discipline

2.1 Name of the discipline (en) (ro)			**Adaptive Web Design** **Web design adaptiv**				
2.2 Course coordinator			**Assoc. Prof. PhD. Sanda-Maria Avram**				
2.3 Seminar coordinator			**Assoc. Prof. PhD. Sanda-Maria Avram**				
2.4. Year of study	**1**	2.5 Semester	**2**	2.6. Type of evaluation	**E**	2.7 Type of discipline	**DS**
2.8 Code of the discipline							

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	3	Of which: 3.2 course	2	3.3 seminar/laboratory	1
3.4 Total hours in the curriculum	36	Of which: 3.5 course	24	3.6 seminar/laboratory	12
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					39
Additional documentation (in libraries, on electronic platforms, field documentation)					30
Preparation for seminars/labs, homework, papers, portfolios and essays					50
Tutorship					8
Evaluations					12
Other activities:					
3.7 Total individual study hours	139				
3.8 Total hours per semester	175				
3.9 Number of ECTS credits	7				

4. Prerequisites (if necessary)

4.1. curriculum	
4.2. competencies	● Basic programming skills in web client-side technologies (HTML, CSS, JavaScript)

5. Conditions (if necessary)

5.1. for the course	● A lecture class with video projector
5.2. for the seminar /lab	● Laboratory with computers connected to the Internet; web servers for

activities	hosting websites.

6. Specific competencies acquired

Professional competencies	● Knowledge, understanding and use of basic concepts of theoretical Computer Science ● Ability to work independently and/or in a team in order to solve problems in defined professional contexts. ● Abilities to develop and maintain software systems
Transversal competencies	● Knowledge, understanding of web standards (HTML and CSS) ● Ability to design optimal websites. ● Developing website evaluation and validation skills so that the developed sites to comply with the standards, be responsive and perform better for search engines and accessibility

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	● Learning, understanding and applying the web standards (HTML and CSS). ● Developing website creation, evaluation and validation skills so that the developed sites to comply with the standards, be responsive (i.e., adapt to any device: telephone, tablet, netbook, laptop, desktop or TV) and perform better for search engines and accessibility.
7.2 Specific objective of the discipline	● Using HTML for structure and CSS for presentation ● Acquire knowledge about the web site development process ● Evaluating and Optimizing a website ● Developing skills to use the most advanced web design skills such as: ○ Using preprocessors like SASS or LESS ○ Using object oriented CSS (OOCSS) ○ Using the block-element-model (BEM) ○ Using web fonts and knowing the typography elements ○ Using the golden ratio and the color theory in web design ○ Create responsive web sites that can adapt to any device ○ Use the progressive enhancement process ○ Accessibility (create sites for everyone)

8. Content

8.1 Course	Teaching methods	Remarks
1-3 Understanding the standards · HTML from HMTL 2.0 to HTML 5 · CSS from CSS 1.0 to CSS 3 · HTML Markup for structure · CSS for presentation	Interactive exposure · Explanation · Conversation · Didactical demonstration	This lecture is held during the second semester of the final year of bachelor study and therefore there are only 12 weeks/lectures
4-9 The site development process; · Planning and site definition · Interface design · Site design · Page design · Typography · Graphics · Multimedia · Tracking, evaluation and maintenance	Interactive exposure · Explanation · Conversation · Didactical demonstration	Here, students will learn about responsive design and progressive enhancement, accessibility and the most innovative web development techniques like OOCSS, SAMCS, BEM, pre-

		processors, minification and mixins. They also find out about useful existing instruments like resets, grids and frameworks.
10-12 Web site optimization · Speed optimization · Search engine optimization · Web analytics	Interactive exposure · Explanation · Conversation · Didactical demonstration	Here students will find out about code quality, best practices, validation and evaluation instruments used for optimization.

Bibliography

1. **Duckett, J.,** HTML and CSS: Design and Build Websites, John Wiley & Sons, USA, 2011.
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4. **Krug, S.,** Don't Make Me Think. A Common Sense Approach to Web Usability, New Riders, 2nd Edition, ISBN: 0-321-34475-8, 2006, http://web-profile.com.ua/wp-content/uploads/stevekrug-dont-make-me-think-second-edition.pdf
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6. **Lynch, P.J., Horton, S.,** Web Style Guide: Basic Design Principles for Creating Web Sites, Yale University Press, 3rd edition, ISBN-13: 978-0300137378, 2009, http://www.webstyleguide.com
7. **Marcotte, E.,** Responsive Web Design, A Book Apart, ISBN: 978-0984442577, 2011
8. **Purewal, S.,** Learning Web App Development, O'Reilly Media, USA, 2014.
9. **Robbins J.N.,** Learning Web Design: A Beginner's Guide to HTML, CSS JavaScript, and Web Graphics, 4th Edition, O'Reilly Media, USA, 2012.
10. **Sebesta, R.W.,** Programming the World Wide Web, 7th Edition, Pearson Education Limited, USA, 2014.
11. **Warren, T.,** ASP.NET For Beginners: The Simple Guide to Learning ASP.NET Web Programming FAST!, 2015.
12. **Watrall, E., Siarto, J.,** Head First Web Design, O'Reilly Media, ISBN: 978-0-596-52030- 4, 2008, http://it-ebooks.info/book/378/
13. https://www.w3.org/standards/webdesign/

8.2 Seminar / laboratory	Teaching methods	Remarks
1. Analyzing a website	Explanation, dialogue, case studies	The seminar is structured as 2 hours classes every second week.
2. Develop a simple site	Dialogue, debate, case studies, examples, proofs	
3. Complying with the standards; HTML and CSS validation	Dialogue, debate, case studies, examples, proofs	
4. Building the optimal structure for a specified type of site; building the optimal layout	Dialogue, debate, case studies, examples, proofs	
5. Typography, graphics and multimedia	Dialogue, debate, case studies, examples, proofs	
6. Evaluating the site; structure, elements, speed and accessibility; improve site as result of the evaluation	Dialogue, debate, case studies, examples, proofs	

Bibliography

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2. **Krug, S.,** Don't Make Me Think. A Common Sense Approach to Web Usability, New Riders, 2nd Edition, ISBN: 0-321-34475-8, 2006, http://web-profile.com.ua/wp-content/uploads/stevekrug-dont-make-me-think-second-edition.pdf
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4. **Watrall, E., Siarto, J.,** Head First Web Design, O'Reilly Media, ISBN: 978-0-596-52030- 4, 2008, http://it-ebooks.info/book/378/
5. https://www.w3.org/standards/webdesign/

9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course addresses a relatively new domain that is rising in recent years (from 2008) and enjoys increasing interest from the scientific community and industry.
- The course is reflected in the curricula of other universities, with similar syllabus. At the same time the content presented in the course is discussed in the literature.
- The content of the course is considered by the software companies as important for average programming skills

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	- know the basic principle of the domain; - apply the course concepts - problem solving	Project presentation	60%
10.5 Seminar/lab activities	- be able to implement with the standards; a small project that proves HTML and CSS correct usage.	Practical examination -documentation -portfolio -continuous observations	20%
	Developing a personal project: creating a website or a web page structure on a certain theme that complies with the HTML and CSS standards and applies the concepts presented during the course.	Early stages of the final project	20%
10.6 Minimum performance standards			
• In order to successfully pass this class, the project presentation and the final mark must be at least 5.			

Date	Signature of course coordinator	Signature of seminar coordinator
28.02.2017	Assoc.Prof.PhD. Sanda-Maria Avram	Assoc.Prof.PhD. Sanda-Maria Avram

Date of approval	Signature of the head of department
.....	Univ. Prof. PhD. Anca Andreica