

SYLLABUS / FIȘA DISCIPLINEI
1. Information on the study programme / Date despre programul de studii

1.1. Institution / Instituția de învățământ superior	Universitatea de Vest din Timișoara
1.2. Faculty / Facultatea	Matematică și Informatică
1.3. Department / Departamentul	Computer Science (Informatică)
1.4. Study program field	Computer Science (Informatică)
1.5. Study cycle/ Ciclul de studii	Bachelor / licență
1.6. Study programme / Programul de studii / calificarea*	Computer Science / Informatică în limba engleză / Database administration / <i>Administrator baze de date - 252101; Computer network administration / Administrator de rețea de calculatoare - 252301; Analyst / Analist - 251201; Research assistant in computer science / Asistent de cercetare în informatică - 214918; Teacher in secondary schools / Profesor în învățământul gimnazial - 233002; Programmer / Programator - 251202; Software systems designers / Proiectant sisteme informatice - 251101</i>

2. Information on the course / Date despre disciplină

2.1. Title of the course / Denumirea disciplinei	Web Technologies					
2.2. Teacher in charge of the course / Titularul activităților de curs	Lect. Dr. Gabriel Iuhasz					
2.3. Teacher in charge of the seminar / Titularul activităților de seminar	Lect. Dr. Gabriel Iuhasz					
2.4. Study year / Anul de studii	3	2.5. Semester / Semestrul	1	2.6. Examination type / Tipul de evaluare: E(xam)/C(olloquim)	E	2.7. Course type / Regimul disciplinei: M(andatory)/ E(lective)/ F(acultative)

3. Estimated study time (number of hours per semester) /Timpul total estimat (ore pe semestru al activităților didactice)

3.1. Attendance hours per week / Număr de ore pe săptămână		out of which din care: 3.2 lecture/ curs		3.3. seminar/laborator	
3.4. Attendance hours per semester / Total ore din planul de învățământ		out of which: 3.5 lecture / curs		3.6. seminar/laborator	
Distribution of the allocated amount of time / Distribuția fondului de timp*					hours/ore
Individual study /Studiu după manual, suport de curs, bibliografie și notițe					10
Supplementary documentation at library or using electronic repositories / Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate					10
Preparing for laboratories, homework, reports etc. /Pregătire seminarii/laboratoare, teme, referate, portofolii și eseuri					30
Exams / Examinări					10

Tutoring / Tutorat		5
3.7. Total number of hours of individual study / Total ore studiu individual		
3.8. Total number of hours per semester / Total ore pe semestru		
3.9. Number of credits (ECTS) / Număr de credite		

4. Prerequisites (if it is the case) / Precondiții (acolo unde e cazul)

4.1. curriculum / de curriculum	Programming, computer networks, databases, operating systems
4.2. skills / de competențe	Analytical thinkink, ability to search and extract information from online sources

5. Requirements (if it is the case) / Condiții (acolo unde e cazul)

5.1. for the lecture / de desfășurare a cursului	Lecture room with projector and whiteboard
5.2. for the seminar, laboratory / de desfășurare a seminarului/laboratorului	Computer with access to the Internet, MySQL databases, python, Java

6. Acquired skills / Competențe specifice acumulate

Professional skills / Competențe profesionale	<ul style="list-style-type: none"> • Understanding of basic principles of client and server side web technologies. • Knowledge of the main technologies used for developing web applications on both client and server side. • Programming using helper libraries for both client and server side applications.
Transversal skills / Competențe transversale	<ul style="list-style-type: none"> • Analytical reasoning, knowledge extraction.

7. Objectives of the course / Obiectivele disciplinei (reieșind din grila competențelor specifice acumulate)

7.1. General objective / Obiectivul general al disciplinei	Web technologies' key aspects and tools
7.2. Specific objectives / Obiectivele specifice	<ul style="list-style-type: none"> • To understand how client side and server side web applications work. • To have basic understanding of various key client and server side web technologies. • To understand the complex ecosystem of web applications.

8. Content / Conținuturi*

8.1. Lecture / Curs	Teaching strategies / Metode de predare	Remarks, details / Observații
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1. Introduction. Internet and HTTP	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
2. HTML 4/5 and CSS 2/3 3. Web forms 4. XML and XHTML	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
5. Introduction in client side programming	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
6. State preservation	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
7. Synchronous vs. asynchronous execution	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
8. JQuery.	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
9. Introduction to server side programming.	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
10-11. Rest and SOAP web services	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
12. Node.js 13-14. Cloud computing	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
13-14. Cloud computing	Discourse, conversation, teaching by example.	2 hours. [1] and lecture slides available at [2]
Recommended bibliography / Bibliografie 1. http://www.w3schools.com/ 2. https://elearning.e-uvv.ro 3. http://flask.pocoo.org/		
8.2. Seminar, lab / Seminar, laborator	Teaching/learning strategies / Metode de predare/ învățare	Remarks, details / Observații

1. Client-server HTTP application using sockets	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
2. HTML and CSS applications 3. Web forms applications	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
4. XML and XHTML applications	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
5. Javascript applications	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
6. Cookie and web storage examples	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
7. AJAX examples	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
8. JQuery examples.	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.

9. Installing a web server and PHP examples	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
10-11. Examples of REST web services	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
12. Installing Node.js and examples	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
13-14. Cloud Computing (Amazon EC2) basic examples.	Conversation, learning through collaboration and online sources. Problem analysis.	2 hours.
Recommended bibliography / Bibliografie <ol style="list-style-type: none"> www.w3schools.com/ Sam Newman. 2015. Building Microservices (1st ed.). O'Reilly Media, Inc.. Miguel Grinberg. 2014. Flask Web Development: Developing Web Applications with Python (1st ed.). O'Reilly Media, Inc.. Leonard Richardson, Mike Amundsen, and Sam Ruby. 2013. Restful Web Apis. O'Reilly Media, Inc.. 		

9. Correlations between the content of the course and the requirements of the IT field / Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatorilor reprezentativi din domeniul aferent programului

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10. Evaluation / Evaluare*

Activity / Tip de activitate	10.1. Evaluation criteria / Criterii de evaluare**	10.2. Evaluation methods / Metode de evaluare***	10.3. Weight in the averaged mark / Pondere din nota finală
10.4. Lecture / Curs	Assessment of student knowledge on web tech basic challenges and	Multiple choice written exam	60%

	existing technologies		
10.5. Seminar/ lab	Lab assignments	Student presentations	40%
10.6. Minimal knowledge for passing / Standard minim de performanță			
<ol style="list-style-type: none"> 1. Understanding the basic difference between client and server side technologies (services). 2. At least one lab assignment/project. 			

Date/ Data completării

Signature (lecture) /
Semnătura titularului de curs

Signature (seminar)
Semnătura titularului de seminar

Signature (director of the department)
Semnătura directorului de departament
Conf.dr. Victoria Jordan