



**UNIVERSITY OF PRIZREN**  
**FACULTY OF COMPUTER SCIENCE**

PROGRAM: DS

<b>Curriculum - – SYLLABUS</b>							
<i>Level of studies</i>	Bachelor	<i>Program</i>	DS	<i>Academic year</i>	18/19		
<b>SUBJECT</b>	Distributed Systems						
<i>Year</i>		<i>Status Of the subject</i> Obligatory	<i>Code</i>		<i>ECTS credits</i>	6	
<i>Semester</i>							
<i>Teaching weeks</i>			<i>Hours teaching</i>		<i>Lectures</i>	<i>Exercises</i>	
					30	30	
<i>Teaching Methodology</i>	Lecturing, lab exercises, projects, individual tasks						
<i>Consultation</i>							
<i>The teacher</i>	Fesal Baxhaku		<i>E-mail:</i>	<b><u>fbaxhaku@gmail.com</u></b>			
			<i>Tel.:</i>	049-254-395			
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			<i>Tel.:</i>				

Study goal and table of content	Benefits of student
<p>Equipping students with the knowledge of how distributed systems work and how e can program distributed applications as well as design aspects of distributed systems. The goal is to train and able to apply the knowledge that will enable to program small systems and collection of results from these small systems in order to get the desired result from a system as a whole.</p>	<p>After completing the course, students must:</p> <ul style="list-style-type: none"> <li>- Be able to understand the requirements and challenges as well as possible solutions when designing distributed systems for potential problems in the IT field.</li> <li>- Have good knowledge of algorithmic approaches to deliver distributed system solutions</li> <li>- Build basic applications following distributed systems based on Java programming language.</li> <li>- Be able to address the problems and possible solutions for distributed systems</li> <li>- Understand the way distributed systems process information known as "Big Data Analytics" using MapReduce.</li> </ul>

<b>Methodology for the implementation of educational topics:</b>		
<b>Conditions for realization of educational topics:</b>		
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<b>Ways of assessing of the student (in %) :</b>	<b>Evaluation in%</b>	<b>Final grade</b>
Periodic Exam	45 %	50 - 59 mark 6 60 – 69 mark 7 70 – 79 mark 8 80 – 89 mark 9 90-100 mark 10
Individual Assignment	15 %	
Periodik Exam	15 %	
Final Exam	25 %	
<b>Total</b>	<b>100.00 %</b>	

<b>Obligations of student: Attend Lab and Lectures</b>			
<b>Lectures</b>		<b>Exercises</b>	
<b>Activities</b>	<b>Hour/ weeks</b>	<b>Days/Weeks</b>	
Lectures	2	14	28
Laboratory exercises	2	14	28
Contacts with teachers / consultations	1	10	10
Practical work	-	-	-
Projects, presentations, etc.	5	12	60
Own study time	1	10	10
Preparation for final exam	2	10	20
Time spent in the assessment (tests, final exam, etc.)			
<b>Notice: 1 ECTS credits= 25</b> hour commitment, e.g. if the subject has 6 ECTS credits student must have 150 hours during the semester commitment.		<b>Total load:</b>	<b>156</b>
<b>Week</b>	<b>Lectures</b>	<b>Hour</b>	<b>Exercises</b>
	<b>Topic</b>		<b>Topic</b>
1.	Introduction to Distributed Systems	2	Tools and IDEs to be used
			2
2	Communication and Internet	2	Tools configuration and simple distributed App.
			2
3.	RPC (Remote Procedure Calls) communication	2	Lab: Remote Procedure Calls with Java
			2
4.	Peer-to-Peer Communication	2	Lab: Peer-to-Peer Communication
			2
5.	Peer-to-Peer Communication (2)	2	Lab Peer-to-Peer Comm. (2)
			2
6.	CORBA, and JavaSpaces	2	Lab: JavaSpaces dhe RMI (Remote Method Invocation)
			2
7.	Periodic exam	2	Project Presentation
8	JMS - Enterprise Messaging (1)	2	Lab with JMS (1)
			2
9	JMS - Enterprise Messaging (2)	2	Lab with JMS (2)
			2
10	Web Services : SOA, Rest	2	Lab with Web Services (1)
			2

11	Web Services : SOA, Rest (2)	2	Lab with Web Services (2)	2
12	Web Services : SOA, Rest (3)	2	Lab with Web Services (3)	2
13	Distributed File Systems, MapReduce and “Big data analytics” (1)	2	Lab: MapReduce and tools for “Big data analytics” (Apache Spark, Hadoop etc.)	2
14	Cont... Distributed File Systems, MapReduce and “Big data analytics” (1)	2	Lab: MapReduce and tools for “Big data analytics” (Apache Spark, Hadoop etc.)	2
15	Periodic Exam		Project Presentation	

<b>LITERATURE:</b>
<p><b>Literatura bazë:</b></p> <ol style="list-style-type: none"> <li><b>G. Colouris, J. Dollimore, T. Kindberg, and G. Blair. “Distributed Systems: Concepts and Design” (5th Edition). 2011</b></li> <li><b>R. Malleswara, R. Pattamsetti. Distributed Computing in Java 9. 2017</b></li> </ol>
<b>NOTICE:</b>
<b>Notice for the student:</b>