

Approved by  
 RECTOR:  
 (Prof. Dr. Zapryan KOZLUDZHOV)  
 Academic Council Minutes No 12/11.07.2016

**CURRICULUM**

Area of higher education: **NATURAL SCIENCES, MATHEMATICS AND INFORMATICS (4)**  
 Professional stream: **INFORMATICS AND COMPUTER SCIENCE (4.6)**  
 Degree programme: **SOFTWARE ENGINEERING**  
 Educational and qualification degree: **BACHELOR**  
 Professional qualification: **INFORMATICIAN**  
 Mode of study: **FULL-TIME**  
 Official length of programme: **4 YEARS**  
 Dean of FMI: (Prof. Dr. Anton Iliev)  
 Faculty Council Minutes No 10/06.07.2016

Course	CH	L	Lw	S	Sw	LB	LBw	SS	T	C	TA	AY	TR	Tn
<b>FIRST ACADEMIC YEAR</b>	<b>620</b>	<b>240</b>	<b>24</b>	<b>210</b>	<b>21</b>	<b>170</b>	<b>17</b>	<b>1240</b>	<b>1860</b>	<b>62</b>				
<i>Autumn trimester</i>	<i>210</i>	<i>80</i>	<i>8</i>	<i>80</i>	<i>8</i>	<i>50</i>	<i>5</i>	<i>450</i>	<i>660</i>	<i>22</i>				
Programming	60	30	3	0	0	30	3	120	180	6	Ex	1	A	1
Web Programming 1	40	20	2	0	0	20	2	110	150	5	CA	1	A	1
Linear Algebra and Analytical Geometry	60	30	3	30	3	0	0	120	180	6	Ex	1	A	1
English	50	0	0	50	5	0	0	100	150	5	-	1	A	1
<i>Winter trimester</i>	<i>190</i>	<i>60</i>	<i>6</i>	<i>70</i>	<i>7</i>	<i>60</i>	<i>6</i>	<i>380</i>	<i>570</i>	<i>19</i>				
Object-Oriented Programming 1	60	30	3	0	0	30	3	150	210	7	Ex	1	W	2
Discrete Structures	60	30	3	0	0	30	3	120	180	6	Ex	1	W	2
English	50	0	0	50	5	0	0	100	150	5	CA	1	W	2
Sport	20	0	0	20	2	0	0	10	30	1	-	1	W	2
<i>Spring trimester</i>	<i>220</i>	<i>100</i>	<i>10</i>	<i>60</i>	<i>6</i>	<i>60</i>	<i>6</i>	<i>410</i>	<i>630</i>	<i>21</i>				
Algorithms and Data Structures	60	30	3	0	0	30	3	150	210	7	Ex	1	S	3
Object-Oriented Programming 2	60	30	3	0	0	30	3	150	210	7	Ex	1	S	3
Mathematical Analysis	80	40	4	40	4	0	0	100	180	6	Ex	1	S	3
Sport	20	0	0	20	2	0	0	10	30	1	-	1	S	3
<b>SECOND ACADEMIC YEAR</b>	<b>540</b>	<b>290</b>	<b>29</b>	<b>140</b>	<b>14</b>	<b>190</b>	<b>19</b>	<b>1320</b>	<b>1860</b>	<b>62</b>				
<i>Autumn trimester</i>	<i>170</i>	<i>100</i>	<i>10</i>	<i>60</i>	<i>6</i>	<i>50</i>	<i>5</i>	<i>400</i>	<i>570</i>	<i>19</i>				
Databases	60	30	3	0	0	30	3	150	210	7	Ex	2	A	4
Introduction to Software Engineering	50	30	3	0	0	20	2	160	210	7	Ex	2	A	4
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA	2	A	4
Sport	20	0	0	20	2	0	0	10	30	1	-	2	A	4

<b>Winter trimester</b>	<b>170</b>	<b>100</b>	<b>10</b>	<b>60</b>	<b>6</b>	<b>50</b>	<b>5</b>	<b>370</b>	<b>540</b>	<b>18</b>			
Operating Systems and Computer Architecture	50	30	3	0	0	20	2	130	180	6	Ex 2	W 5	
Web Programming 2	60	30	3	0	0	30	3	150	210	7	Ex 2	W 5	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 2	W 5	
Sport	20	0	0	20	2	0	0	10	30	1	CA 2	W 5	
<b>Spring trimester</b>	<b>200</b>	<b>90</b>	<b>9</b>	<b>20</b>	<b>2</b>	<b>90</b>	<b>9</b>	<b>550</b>	<b>750</b>	<b>25</b>			
Intelligent Systems	50	30	3	0	0	20	2	160	210	7	CA 2	S 6	
Computer Graphics and GUI	50	30	3	0	0	20	2	160	210	7	Ex 2	S 6	
Distributed Applications	70	30	3	20	2	20	2	140	210	7	Ex 2	S 6	
Practicals in Object-Oriented Programming and Databases	30	0	0	0	0	30	3	90	120	4	CA 2	S 6	
<b>THIRD ACADEMIC YEAR</b>	<b>610</b>	<b>330</b>	<b>33</b>	<b>200</b>	<b>20</b>	<b>200</b>	<b>20</b>	<b>1190</b>	<b>1800</b>	<b>60</b>			
<b>Autumn trimester</b>	<b>210</b>	<b>130</b>	<b>13</b>	<b>40</b>	<b>4</b>	<b>80</b>	<b>8</b>	<b>360</b>	<b>570</b>	<b>19</b>			
Mobile Applications	60	30	3	0	0	30	3	90	150	5	CA 3	A 7	
Software Modelling and Analysis	60	30	3	0	0	30	3	90	150	5	Ex 3	A 7	
Computer Networks and Communications	50	30	3	0	0	20	2	100	150	5	Ex 3	A 7	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 3	A 7	
<b>Winter trimester</b>	<b>230</b>	<b>100</b>	<b>10</b>	<b>120</b>	<b>12</b>	<b>50</b>	<b>5</b>	<b>460</b>	<b>690</b>	<b>23</b>			
Professional Practice	80	0	0	80	8	0	0	160	240	8	CA 3	W 8	
Requirements and Specifications Analysis	50	30	3	0	0	20	2	100	150	5	Ex 3	W 8	
Probability and Applied Statistics	60	30	3	0	0	30	3	120	180	6	Ex 3	W 8	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 3	W 8	
<b>Spring trimester</b>	<b>170</b>	<b>100</b>	<b>10</b>	<b>40</b>	<b>4</b>	<b>70</b>	<b>7</b>	<b>370</b>	<b>540</b>	<b>18</b>			
Software and Architecture Design	50	30	3	0	0	20	2	100	150	5	Ex 3	S 9	
Internet Technology	50	30	3	0	0	20	2	100	150	5	Ex 3	S 9	
Practicals in Software Technology	30	0	0	0	0	30	3	90	120	4	CA 3	S 9	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 3	S 9	
<b>FOURTH ACADEMIC YEAR</b>	<b>500</b>	<b>310</b>	<b>31</b>	<b>160</b>	<b>16</b>	<b>150</b>	<b>15</b>	<b>1300</b>	<b>1800</b>	<b>60</b>			
<b>Autumn trimester</b>	<b>190</b>	<b>120</b>	<b>12</b>	<b>40</b>	<b>4</b>	<b>70</b>	<b>7</b>	<b>350</b>	<b>540</b>	<b>18</b>			
Software Processes	40	20	2	0	0	20	2	80	120	4	Ex 4	A 10	
Web Server Programming	50	30	3	0	0	20	2	100	150	5	Ex 4	A 10	
Big Data	60	30	3	0	0	30	3	90	150	5	Ex 4	A 10	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 4	A 10	
<b>Winter trimester</b>	<b>170</b>	<b>110</b>	<b>11</b>	<b>40</b>	<b>4</b>	<b>60</b>	<b>6</b>	<b>310</b>	<b>480</b>	<b>16</b>			
Software Project Management	50	30	3	0	0	20	2	70	120	4	Ex 4	W 11	
Parallel Programming	40	20	2	0	0	20	2	80	120	4	Ex 4	W 11	
Software Verification and Validation	40	20	2	0	0	20	2	80	120	4	Ex 4	3 11	
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 4	W 11	
<b>Spring trimester</b>	<b>140</b>	<b>80</b>	<b>8</b>	<b>80</b>	<b>8</b>	<b>20</b>	<b>2</b>	<b>640</b>	<b>780</b>	<b>26</b>			
Internship	40	0	0	40	4	0	0	80	120	4	CA 4	S 12	

Cybersecurity and Sustainable Business	40	20	2	0	0	20	2	80	120	4	Ex 4	S	12
Electives or Practicals	40	40	4	0	0	0	0	80	120	4	CA 4	S	12
Overview Lectures in Software Engineering	20	20	2	0	0	0	0	400	420	114	Ex 4	S	12
Preparation for and Taking the State Examination or Development and Defence of a Thesis Paper	0	0	0	0	0	0	0						
<b>TOTAL</b>	<b>2270</b>	<b>1170</b>	<b>117</b>	<b>710</b>	<b>71</b>	<b>710</b>	<b>71</b>	<b>5050</b>	<b>7320</b>	<b>244</b>			

**KEY:**

CH – contact hours; L – lectures; Lw – lectures per week; Se – seminars; Sw – seminars per week; LB - labs; LBw - labs per week; SS – self-study; T – total; C – ECTS credits; TA – type of assessment; AY – academic year; Tr – trimester; Tn – trimester number; Ex – exam; CA – continuous assessment; A – Autumn, W – Winter, S – Spring