

**FACULTY OF ENGINEERING  
STUDY COURSE DESCRIPTION**

<b>Course Title:</b>	<b>Python for Security Testers</b>				
<b>Course code (LAIS):</b>	<i>DatZ5007</i>				
<b>Study programme:</b>	<b>CYBERSECURITY ENGINEERING</b>				
<b>Level of Study programme:</b>	<input type="checkbox"/>	1st level professional higher education			
	<input type="checkbox"/>	Professional Bachelor			
	<input checked="" type="checkbox"/>	Professional Master			
	<input type="checkbox"/>	PhD level			
<b>Type of Study programme:</b>	<input type="checkbox"/>	Compulsory course (Part A)			
	<input type="checkbox"/>	Professional specialization courses (Part B, compulsory)			
	<input type="checkbox"/>	Professional specialization optional courses (Part B, optional)			
	<input checked="" type="checkbox"/>	Elective courses (Part C)			
<b>Course Workload:</b>	<b>Credits</b>	<b>ECTS</b>	<b>Academic hours</b>	<b>Contact hours</b>	<b>Independent work hours</b>
	2	3	80	24	56
<b>Course Author/ Tutor:</b>	<b>K.Felzenbergs</b>				
	Academic position scien./acad. degree				
	Consultation: according to the schedule for each semester				
<b>Course Form:</b>	Full time				
<b>Study year, semester:</b>	2018 /2019	1 <sup>st</sup> semester			
<b>Language:</b>	Latvian				
<b>Prerequisites for the Course:</b>	Basic skills in programming				
<b>Course Summary:</b>	The aim of the study course is to provide in-depth knowledge of the programming language Python and its applications in security testing.				
<b>Course Methods:</b>	Lectures, practical workshops, seminars, discussions, group work				
<b>The Type of Final examination</b>	Exam				
<b>Requirements for Credits:</b>	Practical work 60%, final exam 40%				
<b>Course Contents:</b>	Python interactive translator compared to script, environment variables and PATH, understanding of dynamically typed programming languages, Python style guide, credit resource attacks with Python.				
<b>Learning Outcomes</b>	<b>Learning Outcomes</b>			<b>The evaluation methods and criteria</b>	
	<b>Knowledge</b>				
	A student <b>knows and understands</b> the basics of the programming language.			lectures, practical classes, seminars, discussions, group work	
	<b>Skills</b>				
	A student is <b>able to identify, recognize</b> information security risks, <b>apply</b> the appropriate testing method for determining vulnerabilities.			lectures, practical classes, seminars, discussions, group work	
<b>Learning Outcomes</b>	<b>Competency</b>				
	A student is able to <b>analyse and evaluate</b> the software code, prepare and provide a testing environment.			practical classes, seminars, discussions, group work	
<b>Course Compulsory literature:</b>	J.Seitz Gray hat python, No Starch Press,2009 <a href="http://www.chinastor.org/upload/2015-08/15081917086229.pdf">http://www.chinastor.org/upload/2015-08/15081917086229.pdf</a>				
<b>Course additional literature:</b>	The collection of python pen test scripts <a href="http://seclists.us/a-collection-of-python-pentest-script.html">http://seclists.us/a-collection-of-python-pentest-script.html</a> ; <a href="https://github.com/averagesecurityguy/scripts">https://github.com/averagesecurityguy/scripts</a>				
Course approval date:	January 3, 2018		Course last revision date:		

**Study Course Plan:**

Date*	Theme	Academic hours		Study Form
		contact lessons	Independent work hours	
	Python interactive translator, commonalities and differences, scripts, syntax of the language.	6		Lecture, situation analysis, discussions
	Environment variables and PATH.	6		Lecture, situation analysis,

				discussions
	Understanding of dynamically typed programming languages, Python style guide.	4		Lecture, situation analysis, discussions
	Credit resource attacks with Python, Python tools designed to process and manipulate network traffic.	6	36	Lecture, situation analysis, discussions
	Development of scripts and a presentation.		20	Group work, practical assignments
		2		Final exam
	<b>Hours total:</b>	<b>24</b>	<b>56</b>	

\* The date is specified before the implementation of the course