

Course code																																	
Type and description	EC – Elective Course																																
ECTS credit	1																																
Course name	Selected problems of mathematics (numerical methods)																																
Course name in Polish	Wybrane zagadnienia z matematyki (metody numeryczne)																																
Language of instruction	English																																
Course level	8 PRK																																
Course coordinator	Prof. dr hab. inż. Ryszard Korycki																																
Course instructors	Prof. dr hab. inż. Ryszard Korycki																																
Delivery methods and course duration	<table border="1"> <thead> <tr> <th></th> <th>Lecture</th> <th>Tutorials</th> <th>Laboratory</th> <th>Project</th> <th>Seminar</th> <th>Other</th> <th>Total of teaching hours during semester</th> </tr> </thead> <tbody> <tr> <td>Contact hours</td> <td>0</td> <td>0</td> <td>0</td> <td>15</td> <td>0</td> <td>0</td> <td>15</td> </tr> <tr> <td>E-learning</td> <td>no</td> <td>no</td> <td>no</td> <td>no</td> <td>no</td> <td>no</td> <td>no</td> </tr> <tr> <td>Assessment criteria (weightage)</td> <td>0</td> <td>0</td> <td>0</td> <td>100%</td> <td>0</td> <td>0</td> <td>100</td> </tr> </tbody> </table>		Lecture	Tutorials	Laboratory	Project	Seminar	Other	Total of teaching hours during semester	Contact hours	0	0	0	15	0	0	15	E-learning	no	no	no	no	no	no	no	Assessment criteria (weightage)	0	0	0	100%	0	0	100
	Lecture	Tutorials	Laboratory	Project	Seminar	Other	Total of teaching hours during semester																										
Contact hours	0	0	0	15	0	0	15																										
E-learning	no	no	no	no	no	no	no																										
Assessment criteria (weightage)	0	0	0	100%	0	0	100																										
Course objective	The course objective is to acquire the knowledge concerning the application of computer-oriented numerical methods in scientific problems																																
Learning outcomes	<p>After the finished course the doctoral student/postgraduate can implement the appropriate numerical method to solve the selected project task concerning the numerical methods.</p> <p>Effects: K1, W4, U4</p> <p><i>Knowledge:</i></p> <ul style="list-style-type: none"> <i>Zakres i głębina – kompletność perspektywy poznawczej i zależności</i> <p><i>Skills:</i></p> <ul style="list-style-type: none"> <i>Wykorzystanie wiedzy – rozwiązywane problemy i wykonywane zadania</i> <i>Komunikowanie się – odbieranie i tworzenie wypowiedzi, upowszechnianie wiedzy w środowisku naukowym i posługiwanie się językiem obcym</i> <i>Organizacja pracy – planowanie i praca zespołowa</i> 																																
Assessment methods	<p>Presentation of the project.</p> <p>The final grade is a grade of the result of realized project -100%</p>																																
Prerequisites	None																																
Course content with delivery methods	<ol style="list-style-type: none"> Matrix algebra. Solving large equation systems by means of iterative and exact methods. Solving equations and systems of nonlinear equations. Interpolation and approximation of functions. Numerical integration. Numerical differentiation. 																																

Basic reference materials	<ol style="list-style-type: none"> 1. Hoffman J. D.; Hoffman H. D.: Numerical Methods for Engineers and Scientists, Second Edition, 2001 2. Rao Singiresu S.: Applied Numerical Methods for Engineers and Scientists, Pearson Education, 2001 3. Fortuna Z., Macukow B., Wąsowski J.: Metody Numeryczne. PWN, 1999 (in Polish) <ol style="list-style-type: none"> 1. 2. Kaćki E., Małolepszy A., Romanowicz A.: Metody numeryczne dla inżynierów. PŁ., Łódź 2000 (in Polish)
Other reference materials	Korycki R: the supportive materials of lectures – title to the property
Average student workload outside classroom	15h
Comments	None
Last update	March 2023