

Course: Pseudodifferential and Fourier integral operators		
Course instructors: Stevan Pilipović		
Course type: elective		
Credit points ECTS: 12		
Prerequisites: -		
Course objectives: Introducing basic notions and techniques of theory of pseudo-differential and Fourier integral operators.		
Learning outcomes: Students should learn the theory of oscillatory integrals and properties of basic symbol classes, and the problem of quantization from the pseudo-differential calculus point of view. The method of parametrix will provide an understanding of the notion of approximate solutions to some classes of partial differential equations and techniques of qualitative analysis of solutions. It is desirable to master the symbolic calculus and adopt the way to apply symbolic calculus in solving equations.		
Course description (outline): <i>Theoretical classes</i> Oscillatory integrals. Basic classes of symbols and the problem of quantization. Fourier integral operators. Algebra of pseudo-differential operators – local and global theories. Pseudo-differential calculus, Weyl and Anti-Wick calculus. Ellipticity and hypoellipticity. Sobolev and Fredholm operator theories.		
References: <ol style="list-style-type: none"> 1. F. Trèves, Introduction to the theory of pseudodifferential operators and Fourier integral Operators, Plenum Press 1982 2. M.A. Shubin Pseudodifferential operators and spectral theory, Springer-Verlag, Berlin, 1987. 3. Xavier Saint Raymond: Elementary introduction to the Theory of pseudodifferential operators, CRC Press, 1991 4. F. Nicola, L. Rodino-Global Pseudo-Differential Calculus on Euclidean Spaces, Birkhäuser, 2010. 		
Active teaching hours: 5	Theoretical classes: 5	Practice classes: -
Methods of teaching: Lectures, discussions and regular consultations		
Grading structure (100 points) Solving selected homework: 50 points, oral exam: 50 points		
Начин провере знања могу бити различити : (писмени испити, усмени испт, презентација пројекта, семинари итд.....		
*максимална дужна 1 страница А4 формата		