Program	Level	Second cycle		
	Name of the program	Applied mathematics, Pure mathematics		
COURSE				
Course title	**Partial Differential Equations**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
AMAT 420	I	Mandatory course	8	3+2+0
Lecturer				
Course Goals	Introduce to students essential properties, and classical methods of solving second-order linear partial differential equations. models based on partial differential equations.			
Learning Outcomes	After completing the module, the student will be able to: - classify second-order linear partial differential equations - solve second-order linear partial differential equations; - solve practical problems modelled by second-order linear			

COURSE CONTENT

Introduction (definitions, examples). Classification of the Second Order PDEs (two independent variables).Hyperbolic Equations (Cauchy Problem for the One-dimensional Wave Equation, The Fourier Method of Separation Variables, The Sturm-Liouville Problem). Elliptic Equations (Dirichlet Problem, The Maximum Principle, The Green Function, The Harmonic Functions), Parabolic Equations (Cauchy Problem, Mixed Type Problem, Heat conduction)

LITERATURE

[1] I. Aganović, K. Veselić, Linearne diferencijalne jednadžbe, Element, Zagreb, 1997.
[2] L. C. Evans, Partial differential equations, AMS, 1998.
[3] G. B. Folland, Introduction to partial differential equations, Princeton University Press, 1995.
[4] F. John, Partial differential equations, Springer Verlag, 1982.
[5] S. Kalabušić, N. Memić, E. Pilav, Parcijalne diferencijalne jednačine, PMF, Sarajevo, 2015
[6] J. Rauch, Partial differential equations, Springer Verlag, 1991.
[7] M. Renardy, R. C. Rogers, An introduction to partial differential equations, Springer Verlag, 1993.

STUDENT WORKLOAD (hours in a semester)

Lectures	45	Tutorial	30	Individual work	125	T o t a l	200

GRADING

Criterion	Maximum points	Minimum points
Midterm exams	50	25
Homework assignment	-	-
Project	-	-
Laboratory assignments	-	-
Final exam	50	30
T o t a l	100	55

REMARKS

Midterm exam: only once in semester (end of November or first week of December). Students altogether write 120 minutes long test. This test is evaluated by max 50 points. The minimal score of the test is 25 points.

Final exam: Students who do not reach the midterm exam minimal score must take the entire course in the final exam. In this case, the final exam is evaluated by max 100 points. The final exam's minimal score is 55 points. Students who reach the midterm exam minimal score take only the part of the final exam that is not covered by the midterm test. In this case, the final exam is evaluated by max 50 points. The minimal score is 30 points.