Program	Level	Second cycle			
	Name of the program	Applied Mathematics			

COURSE					

Course title	**Integral Transforms with Applications**				
Course code	Semester	Course status		ECTS	Contact hours (L+AE+LE)
AMAT 510	III	Mandatory course		8	3+2+0
Lecturer					
Course Goals	Integral transforms are important tool applicable for solving many problems in different mathematical disciplines, as well as in other scientific disciplines. They are very useful for solving differential equations, partial differential equations and integral equations. The main goal of the subject is to introduce different types of integral transformations and their properties, as well as some methods to solve different types of problems using theese transformations.				
Learning Outcomes	After completing this course, students should demonstrate competency in the following skills: - Understand different terms introduced when studying and applying integral transformations - Be able to use different methods to calculate different integral transformations - Be able to use different methods to apply integral transformations to solve different types of equations				

COURSE CONTENT

- Laplace transforms and its applications
- Mellin transforms and its applications
- Hankel transforms and its applications
- Hilbert and Stieltjes transform and its applications
- Jacobi and Gegenbauer transforms and its applications
- Legendre transforms and its applications
- Laguer and Radon transforms and its applications

LITERATURE

[1] L. Debnath, D. Bhatta: Integral transformation and application, 2nd edition, Chapman Hall/CRC, 2007.
[2] B. Davies: Integral transform and their applications, 3rd edition, Springer, 2002.
[3] K.B. Wolf: Integral transforms in science and engineering, Springer, 1979.

STUDENT WORKLOAD (hours in a semester)							
Lectures	45	Exercises	30	Individual work	125	T o t a l	200

GRADING			REMARKS	
Criterion	Maximum points	Minimum points		
Midterm exams	50	25		
Final exam	50	25		
T o t a l	100	55		