Anno Accademico 2009/2010

EVOLUTION EQUATIONS - PART TWO	
Enrollment year	2009/2010
Academic year	2009/2010
Regulations	DM270
Academic discipline	MAT/05 (MATHEMATICAL ANALYSIS)
Department	DEPARTMENT OF MATHEMATICS "FELICE CASORATI"
Course	MATHEMATICS
Curriculum	A
Year of study	0°
Period	(01/03/2010 - 30/09/2010)
ECTS	3
Lesson hours	24 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	SCHIMPERNA GIULIO FERNANDO - 3 ECTS
Prerequisites	The knowledge of the basic elements of calculus for functions of one or more variables is required, as well as the theory of Lebesgue''s integration and of L^p spaces, the basic notions on Banach and Hilbert spaces, and the fundamental theorems of weak compactness. Further notions of functional analysis, like distributional derivatives and Sobolev spaces, will be extensively used during the course, but a brief survey will be given at the beginning.
Learning outcomes	The main task of the course consists in describing some methods that are important for the mathematical analysis of evolutionary PDE''s, in particular from the point of view of physical applications.
Course contents	The content of the course has partly a monographical character and may vary from year to year. During the present academic year (2009/10) the following topics have been treated: abstract theory of infinite-dimensional dynamical systems; trajectories, stationary points;

	dissipative dynamical systems; omega-limit sets, attractors; applications to the Allen-Cahn equation and to the semilinear damped wave equation.
Teaching methods	Lectures
Reccomended or required readings	J.C. Robinson, Infinite-dimensional Dynamical Systems, Cambridge texts in applied mathematics. G. Schimperna, lecture notes of the course, available at the webpage http://www-dimat.unipv.it/giulio/eqev09.html
Assessment methods	The final exam will be in oral form.
Further information	
Sustainable development goals - Agenda 2030	[$lbl_legenda_sviluppo_sostenibile](#)