General Information	
Academic subject	Foundations of Arithmetics
Degree course	Primary Education Sciences
Curriculum	
ECTS credits	8
Compulsory attendance	No
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Antonella Montone	antonella.montone@uniba.it	01/A1

ECTS credits details			
Basic teaching activities	Lecture	Workshop	

Class schedule	
Period	Semestre I
Year	IV
Type of class	Lecture- workshops

Time management	
Hours measured	60 minute
In-class study hours	60
Out-of-class study hours	140

Academic calendar	
Class begins	12/10/2018
Class ends	31/01/2019

Syllabus	
Prerequisite requirements	
Expected learning outcomes (according to Dublin Descriptors)	*Knowledge and understanding* Mastery and critical knowledge of theoretical foundations and languages typical of arithmetics. Didactic knowledge relative to arithmetics in the primary school, with special attention to interdisciplinary links. *Applying knowledge and understanding* Planning learning paths in mathematical context. Reading simple research articles in mathematics education, showing to being able to seize, evaluate, and use results from empirical studies in order to improve knowledge and educational interventions. *Making informed judgements and choices* Recognizing arguments, and demonstrations correct procedures and reasoning to identify incorrect or incomplete, possibly by correcting or supplementing them; informative articles pertaining to interpret and possibly translate and comment mathematical texts from other languages; *Communicating knowledge and understanding* Communicating and arguing with clarity and relevance issues mathematical

	formulations consistent with the public they serve being able to draw conclusions with accuracy both in writing and oral *Capacities to continue learning* acquiring a flexible mindset and being able to fit in quickly in the workplace, adapting easily to new problems and quickly gaining the necessary skills.
Contents	• The institutional frames: national curriculum, national school evaluation (INVALSI), OCSE-PISA • The use of tools: Problem-Solving, Problem-Posing, Scientific Method • the concept of natural number in all its aspects. • Read and write the number, the positional value • The set of natural numbers • Operations with natural numbers, alternative algorithms. Introduction of rational numbers (as a fraction and decimal numbers) • Operations with rational numbers • The numbers and the measurement. • The arithmetic for solving problems
Course program	
Bibliography	- Slides e materiali a cura del docente (caricati in rete durante lo svolgimento del corso). - A. Contardi et all, Insegnare la matematica a studenti disabili, Ed. ETS - M.G. Bartolini Bussi, i numeri e lo spazio, Edizioni Junior. - M.G. Bartolini Bussi, A. Ramploud, A. Baccaglini-Frank, Aritmetica in pratica, Ed. Erickson. - M.I. FANDINO PINILLA, Molteplici aspetti dell'apprendimento della matematica, Ed. Erickson. - U.M.I. Matematica 2001- Materiali per un muovo curricolo di matematica con suggerimenti per attività e prove di verifica:http://umi.dm.unibo.it/old/italiano/Matematica2001/matematica2001.html
Notes	
Teaching methods	Lecture, workshop
Assessment methods	Through intermediate tests the possession and the critical knowledge of the theoretical foundations and of the mathematical languages and the didactic knowledge related to the concept of number and the main logical structures of arithmetic in Primary School, with attention to interdisciplinary connections, will be verified. The final oral exam will serve to ascertain the communication skills and organization of the acquired knowledge, the ability to be able to work with a wide autonomy, even assuming scientific and organizational responsibilities.
Further information	