



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Psicologiche, Pedagogiche, dell'Esercizio Fisico e della Formazione
ACADEMIC YEAR	2023/2024
MASTER'S DEGREE (MSC)	PRIMARY EDUCATION
SUBJECT	CHEMISTRY FOR PRIMARY AND CHILDREN'S SCHOOL
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	70011-Discipline chimiche
CODE	16031
SCIENTIFIC SECTOR(S)	CHIM/03
HEAD PROFESSOR(S)	BARONE GIAMPAOLO Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	4
INDIVIDUAL STUDY (Hrs)	73
COURSE ACTIVITY (Hrs)	27
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	4
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	BARONE GIAMPAOLO Tuesday 15:00 17:00 Sede del Consorzio Universitario, corso Vittorio Emanuele, 92, 93100 Caltanissetta Wednesday 15:00 17:00 Studio del docente, viale delle Scienze, Edificio 17, 90128 Palermo

DOCENTE: Prof. GIAMPAOLO BARONE

PREREQUISITES	Knowledge of mathematics required for being admitted to the degree course and verified through the admission test.
LEARNING OUTCOMES	<p>Knowledge and understanding: Knowledge of the basic concepts of Chemistry to be used as an interpretative key in the teaching of physical and natural sciences.</p> <p>Applying knowledge and understanding: Knowing the concepts, techniques and chemical methods to describe the behavior of real systems. The future teacher will act as director and coordinator urging the possible questions and will to know about topics concerning the matter and its transformations</p> <p>Making judgements: To be able to evaluate simple chemical issues to be taught to prospective students, by following critical and effective pathways for understanding simple phenomena related to the matter and its transformations</p> <p>Communication skills: Knowing how to argue in strict terms on the concepts acquired in written and oral form in order to transmit these skills to prospective students</p> <p>Learning skills: Knowing how to interpret and rework new superior knowledge to basic concepts acquired during the course.</p>
ASSESSMENT METHODS	<p>The final examination consists of a written test and of an oral exam. The written test, of the duration of about 2 hours, concerns the design of a Chemical lecture. The oral test consists of a short interview on theoretical and practical aspects of the topics covered in the course. The final assessment, properly graded, will be made on the basis of the following conditions:</p> <p>a) sufficient knowledge of subjects and theories addressed in the course and sufficient explanation ability; sufficient degree of awareness and autonomy in the application of theories to explain chemical phenomena (rating 18-21);</p> <p>b) Good knowledge of subjects and theories addressed in the course and discrete explanation ability; fair degree of awareness and autonomy in the application of theories to explain chemical phenomena (rating 22-25);</p> <p>c) Good knowledge of subjects and theories addressed in the course and good explanation ability; good degree of awareness and autonomy in the application of theories to explain chemical phenomena (rating 26-28);</p> <p>d) Excellent knowledge of subjects and theories addressed in the course and excellent explanation ability; excellent level of awareness and autonomy in the application of theories to explain chemical phenomena (rating 29-30L).</p>
EDUCATIONAL OBJECTIVES	<p>The aim of the course is to provide students with a thorough knowledge of basic Chemistry concepts, in order to teach prospective students how to:</p> <ul style="list-style-type: none"> - observe, ask questions and discuss about possible hypotheses - propose investigation pathways, - logically connect the investigated phenomena, - justify and defend choices - acquire the meaning of words and terms, - acquire expertise on the considered phenomena, both in everyday life and in laboratory, - use learning objects and e-books.
TEACHING METHODS	Teaching takes place in the first half of the year and consists of lectures and of classroom exercises.
SUGGESTED BIBLIOGRAPHY	<ul style="list-style-type: none"> - V. Domenici, "Insegnare e apprendere la chimica", Mondadori Education - L. Cipolla, "Metodi e strumenti per l'insegnamento e l'apprendimento della chimica", Edises - S. Passannanti, C. Sbriziolo "L'ora di chimica", Tramontana RCS education - A. Meiani "Il grande libro degli esperimenti", De Agostini

SYLLABUS

Hrs	Frontal teaching
3	Observation and description of a phenomenon: the experimental method
8	Matter: characteristics of matter; physical states of matter; the microscopic nature of matter.
8	From mixtures to pure substances: mixtures and their separation; solutions and separation techniques; properties of the substances; analysis of certain substances
8	Chemical reactions: simple chemical reactions; distinction between physical and chemical changes; the combustion reaction; chemical reactions and energy