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**COURSE: Chemistry Didactics**

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**ACADEMIC YEAR: 2019-2020**

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**TYPE OF EDUCATIONAL ACTIVITY: Free Choice**

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**TEACHER: Prof. Maria Funicello**

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Language: **Italian**

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ECTS: (lessons e  
tutorials/practice)  
6n. of hours: (lessons e  
tutorials/practice)  
48 (Theoretical  
lessons)Campus: **Potenza**  
Dept./School: **Dipartimento  
di Scienze**  
Program: **Chemistry (L27)**Semester: II  
(date)

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**EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES**

The main objective of the course is to provide students with the basics of teaching methods for teaching chemistry in the competition classes A-34, A-50 and A-28.

The main knowledge provided will be:

- Knowledge of the main teaching methods
- Fundamentals of the history of chemistry
- Basic knowledge for the choice of experiments suitable for different higher education addresses

The main skills that can be achieved are:

- Analyze the problems related to the transmission of the main chemical contents
  - Evaluate the best method of approach adaptable to the class
  - Succeed in designing educational experiments that can also be conducted in the classroom and with readily available material.
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**PRE-REQUIREMENTS**

Knowledge of the main concepts of chemistry.

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**SYLLABUS**

The course program includes the following topics from a didactic point of view:

- Concept of substance, element and compounds
  - The laws that mark the passage of chemistry from alchemy to science
  - Atom (classic and modern) and molecules.
  - Solutions and properties of solutions
  - Chemical reactions in all aspects
  - Common teaching methods such as historical epistemological approach, problem solving, laboratory teaching.
  - Use of digital technologies
  - Evaluation methods and construction of teaching units
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**TEACHING METHODS**

The course includes 48 hours of classroom teaching with expert interventions and practical demonstrations.

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#### EVALUATION METHODS

The verification of the learning will be carried out through the development of a teaching unit presented in the classroom in lesson mode.

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#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- e-book: Chemistry Teaching Course - X School of Educational and Educational Research "Ulderico Segre", Rome, 5-8 September 2018- Italian Chemical Society
- Valentina Dominici, "Teaching and Learning Chemistry", Mondadori University, 1st edition 2018
- Discovering chemistry 1 and 2- Experiments and experiences of daily chemistry by Stefano Superchi, Maria Funicello, Mariangela Nardiello, 2015 edition (PLS Award funds)
- Online tutorial.

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#### INTERACTION WITH STUDENTS

Contact by mail and receiving by appointment on every day

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#### EXAMINATION SESSIONS (FORECAST)<sup>1</sup>

19/6/2020; 17/7/2020; 15/10/2020; 19/11/2020; 18/12/2020

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SEMINARS BY EXTERNAL EXPERTS    YES  X    NO

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#### FURTHER INFORMATION

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<sup>1</sup>Subject to possible changes: check the web site of the Teacher or the Department/School for updates.