

## **COURSE TITLE**

STORIA DELLA CHIMICA

***HISTORY OF CHEMISTRY***

*(Laurea triennale in Chimica)*

Prof. Roberto Zingales (e-mail: roberto.zingales@unipa.it)

Classroom site: Viale delle Scienze Edificio 17 (Building 17) M. Ruccia Room

Credits (CFU) = 6

## **COURSE PROGRAM**

### **face-to-face lectures (48 hrs, 6 CFU)**

*In the course, the history of mankind is considered from the point of view of chemistry. It is shown as artisans of different kinds, smiths, potters, painters, healers, did practice chemistry in the past, thus contributing to its improvement and progress. The rise and development of the major chemical concepts and ideas are discussed:*

*Protochemistry and alchemy.*

*Philosophical theories on the structure of matter.*

*The birth and evolution of chemical instruments.*

*The discovery of quantitative laws.*

*The discovery of gases: pneumatic chemistry.*

*Lavoisier and the theory of oxygen.*

*Elements, atoms and molecules.*

*Valence and structures: the birth of organic chemistry.*

*Theories on acidity, from Lavoisier to Arrhenius.*

*Electricity and chemistry, from Galvani to J. J. Thomson.*

*Chemical language, written and symbolic.*

*Ordering the world of chemistry: the discovery of periodicity law.*

*The discovery of elements.*

*The discovery of subatomic particles.*

## **TEXTBOOKS**

M. Giua, *Storia della Chimica*, Chiantore (TO), 1946

J.R. Partington, *A Short History of Chemistry*, Dover Publications (NY), 1957

J. Solov'ev, *L'evoluzione del pensiero chimico dal '600 ai giorni nostri*, Mondadori EST, 1976

H.W. Salzberg, *From Caveman to Chemist*, ACS, Washington, 1991

B. Bensaude-Vincent e I. Stengers, *A History of Chemistry*, Harvard University Press, (Cambridge), 1993

I. Asimov, *Breve storia della Chimica*, Zanichelli, 1994

C. Cobb e H. Goldwithe, *Creations of fire*, Plenum Press, New York, 1995

P. Rossi, *Storia della Scienza Moderna e Contemporanea*, TEA (MI), 2000

G. Villani, *La chiave del mondo*, CUEN, Città della Scienza (NA) 2001

G. Villani, *Molecole*, CUEN (NA) 2001