

**COURSE: Safety in the Chemistry Labs**ACADEMIC YEAR: **2016/2017**TYPE OF EDUCATIONAL ACTIVITY: (Basic, Characterizing, Affine, Free choice, Other) **Other**TEACHER: **Prof. Maria Funicello**e-mail: **maria.funicello@unibas.it**

website:

phone: **+390971205490**mobile (optional): **+393204371612**Language: **Italian**

ECTS: (lessons)

**1**

n. of hours: (lessons)

**8**

Campus: Potenza

Dept./School:

**Dipartimento di Scienze**CdS: **Chimica (L27)**

Semester:

**First****EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES**

The course aims to indicate the principal risks to which is subject who works in a chemistry lab, provide students a basic knowledge about safety, indicate the main rules of good behaviour and recognize the signs of prohibition, obligation, fire and emergency. The course aims also to show the main sources of information and the most important regulations on fire safety and handling toxic-harmful substances, and finally to know the PPE to be worn in the laboratory and the behaviour to keep in case of accident or alarm.

**PRE-REQUIREMENTS****None****SYLLABUS**

Definition of work environment, of quality and security of employment. The most common types of accidents and their causes in some workplaces and in everyday life. FAFR index. Definition of risk and danger. Risk assessment obtained with the CHEOPE model. Fire triangle. Definition of the point and area of flammability and self-ignition of the most common solvents. NFPA Classification of flammable substances. Runaway reactions, thermodynamic and kinetic aspects connected to them. Directive 2003/105 / EC and DLg 238 of 21/09/2005. Classification of types of fires and main rules of conduct in case of fire. Extinguishing media and their appropriate use. Relevant routes of exposure and type of damages. Classification of dangerous substances and COSHH regulations. Classification of carcinogens. Exposure assessment and most common indexes ACGIH: LD50, MAC, MEL, TLV-STEL, TLV-TWA and TLV-C. Hazard and precautionary statements, information in the safety data sheets and on the labels. PPE, choice of gloves and main rules of good behavior in the chemistry labs. Signals at the workplace: warning, prohibition, obligation, emergency and fire. Some references on the procedure for the analysis and risk assessment.

**TEACHING METHODS****Theoretical lessons****EVALUATION METHODS****Validation****TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL**

J. A. Young "Improving Safety in the Chemical Laboratory" Ed. John Wiley &amp; Sons

R. Fornasier "Guida alla Sicurezza nei Laboratori Chimici" Ed. Libreria Cortina, Padova

**INTERACTION WITH STUDENTS**

Contact by mail and receive by appointment on every day.

**EXAMINATION SESSIONS (FORECAST)<sup>1</sup>****2/2/2017; 2/5/2017**SEMINARS BY EXTERNAL EXPERTS YES  NO **FURTHER INFORMATION**<sup>1</sup> Subject to possible changes: check the web site of the Teacher or the Department/School for updates.

LOGO DELLA STRUTTURA PRIMARIA

