



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

The principle of 3R in Biomedical studies

2122-90R-MOD8

Title

THE PRINCIPLES OF 3RS IN BIOMEDICAL STUDIES

Teacher(s)

GABRIELLA NICOLINI

PARIDE MANTECCA

LUCA CRIPPA

LAURA ANTOLINI

DAVIDE BALLABIO

FERDINANDO CHIARADONNA

SILVIA KIRSTEN NICOLIS

Language

English

Short description

The course is aimed at introducing the student to the 3R principles (Replacement, Reduction & Refinement) in the biomedical studies and to provide basic and applied knowledge on the experimental models and instruments to be applied in the experimental research. The course will consist of 6 seminars:

-The 3R principles in the legislation regarding the animal experimentation: the European directive 2010/63 and the Italian DL 26/14. (Dott. Crippa)

-Statistical methods applied to the determination of the study dimension in lab experiments: theoretical and practical aspects (free software G-power). (Prof.ssa Antolini)

-Development of QSAR in silico models for the studies on the relationship between structure and molecular properties. (Prof. Ballabio)

-In vitro modeling of complex diseases: 2D and 3D cell systems to dissect cancer biology and to improve translational research (Prof. Ferdinando Chiaradonna)

- *Genetic manipulation of in vitro cultured glioma stem cells identifies genes interfering with cell proliferation, that have effective tumor suppressor activity in vivo* (Prof.ssa Silvia Kirtsen Nicolis)

-Vertebrate experimental models alternative to mammals: the use of zebrafish and *Xenopus laevis* in developmental biology and toxicology (Prof. Mantecca)

CFU / Hours

12

Teaching period

May-June
