



TOXICOLOGY AND SAFETY OF BIOTECHNOLOGY PRODUCTS

Enrollment year	2021/2022
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/14 (PHARMACOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	ADVANCED BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	2nd semester (01/03/2022 - 14/06/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	DOSSENA MAURIZIA (titolare) - 3 ECTS VERRI MANUELA - 2 ECTS VERRI MANUELA - 1 ECTS
Prerequisites	None
Learning outcomes	The course aims to describe the nature and mechanisms that characterize the adverse effects related to different biotechnology-derived products: biological medicinal products, diagnostic products, cosmetics and food supplements.
Course contents	Principles of general toxicology: major areas of toxicology; toxic agents; exposure characteristics; classification of adverse effects; dose-response relationship; threshold effects; mechanisms of toxicity; toxicokinetics; risk assessment. Toxicology in drug development phases. Biotechnology-derived products: general aspects. Toxicology of biotechnology-derived medicinal products: monoclonal antibodies;

cytokines and growth factors; blood derivatives; recombinant enzymes and hormones; recombinant vaccines; biosimilars. Biotechnology and food safety. Genetically modified organisms. Toxicology of cosmetics. Biotechnology and sustainable development.

Teaching methods

Lessons and seminars

Reccomended or required readings

Slides
Casarett & Doull's
"Toxicology" Ed.Ambrosianaes

Assessment methods

Oral exam

Further information

Sustainable development goals - Agenda 2030

[The goals](#)