UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

PHARMACEUTICAL TECHNOLOGICAL ELEMENTS

Enrollment year	2019/2020
Academic year	2021/2022
Regulations	DM270
Academic discipline	CHIM/09 (APPLIED TECHNOLOGICAL PHARMACEUTICS)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	3°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	PERTEGHELLA SARA (titolare) - 6 ECTS
Prerequisites	Student must have attended the courses, and acquired the basic knowledge, in biochemistry, general and inorganic chemistry.
Learning outcomes	At the end of the course the student will have to know the basic pharmaceutical technology. Students will also have acquired the basic principles necessary to define a pharmaceutical dosage form and to understand the rationale for the formulation of conventional drugs.
Course contents	Classification of pharmaceurical dosage forms and administration routes. Principles of biopharmaceutic and pharmakinetic. Bioavailability and bioequivalence. Conventional solid pharmaceutical dosage forms. Pharmaceuticla powders characterization. Grinding and mixing. Capsules and tablets (coating and controls of tables). Conventional liquid pharmaceutical dosage forms. Solutions and dispersed systems: emulsions and suspensions. Parenteral preparations. Sterilizazion of

	injectable preparations. Inhalator and pulmonar pharmaceutical dosage forms. pharmaceutical dosage forms for drug controlled release. Site- and time-specific therapeutic systems. Mechanisms for the controll of release rate: reservoir and matrix systems, osmotic pumps.
Teaching methods	Frontal lessons
Reccomended or required readings	Lessons' slides and books. P. Colombo et al. “Principi di tecnologie farmaceutiche”. Casa Editrice Ambrosiana, Milano. A.T. Florence et al. “Physical Pharmacy”. Pharmaceutical Press, London. M.E. Aulton “Pharmaceutics: the Science of Dosage Form Design”. Churchil Livingstone, New York.
Assessment methods	Learning is verified by written exam. The subject of the examination is the contents of the reference texts and the contents of the lectures.
Further information	Non contents
Sustainable development goals - Agenda 2030	Not applicable $lbl_legenda_sviluppo_sostenibile