

**COURSE DATA****Data Subject**

Code	43036
Name	Update on the forms and systems of medicine use and administration
Cycle	Master's degree
ECTS Credits	4.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
2138 - Master's Degree in Research in and Rational Use of Medicines	Faculty of Pharmacy and Food Sciences	1	First term
3103 - PhD in Biomedicine and Pharmacy	Doctoral School	0	First term

Subject-matter

Degree	Subject-matter	Character
2138 - Master's Degree in Research in and Rational Use of Medicines	12 - Updates in the forms and systems of medicine use and administration	Optional

Coordination

Name	Department
TALENS VISCONTI, RAQUEL	358 - Pharmacy, Pharmaceutical Technology and Parasitology
USACH PEREZ, IRIS	358 - Pharmacy, Pharmaceutical Technology and Parasitology

SUMMARY

This course addresses the new forms and drug delivery systems, in order to provide additional training health professionals (recycling) for scientific advances that have been made in various areas of knowledge, in addition to driving, discovery of new molecules with therapeutic activity (biotechnology), enabling the development of new forms and drug delivery systems (nanotechnology, polymer materials with specific properties, programmable infusion systems, etc) that provide clear advantages over conventional forms.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

2138 - Master's Degree in Research in and Rational Use of Medicines

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Be able to access to information tools in other areas of knowledge and use them properly.
- Be able to apply the research experience acquired to professional practice both in private companies and in public organisations.
- Capacidad de seleccionar y gestionar los recursos disponibles (instrumentales y humanos) para optimizar resultados en investigación.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

At the end of the teaching-learning process the student should be able to:

1. Assess the use of new technologies in the development of drug delivery systems
2. Select biopolymers to develop new vectors for gene therapy
3. Provide information to health professionals and patients

DESCRIPTION OF CONTENTS

1. New forms of parenteral administration, systems and implantable programmable infusion pumps.

**2. New forms of ocular administration.****3. New forms of transpulmonary administration****4. New modified release forms for oral administration.****5. Preparation of micro and nanoparticles of drugs.****6. Medicaments d'origen biotecnològic.****7. Gene therapy.****WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	32,00	100
Group work	8,00	100
TOTAL	40,00	

TEACHING METHODOLOGY

Lectures, participatory lecture

Discussion of items (readings)

Debate and directed discussion

To complete the classroom hours, the materials provided for face-to-face teaching will be adapted, so that the student can access them at any time. Use of the virtual classroom forum to answer questions.

For the practical sessions of the theoretical content, the use of videoconferences and / or the completion of the exercises proposed would be combined using the "Task" option in the virtual classroom.

During the activities, both theoretical and practical, the applications of the contents of the subject in relation to the Sustainable Development Goals (SDG) will be indicated. This is intended to provide knowledge, skills and motivation to understand and address these SDGs, while promoting reflection and criticism.



EVALUATION

Continuous assessment

Minimum score to pass the course: 5 points

Distribution of scores:

Activity	%
Assistance to classroom	50
Seminars	10
Individual work	40

REFERENCES

Basic

- Bioadhesive Drug Delivery Systems: Fundamentals, Novel Approaches and Developmental (Drugs and the Pharmaceutical Sciences S.) Eds: Mathiowith, Chickering III, Lehr. Marcel Dekker 1999.
- Banga A.K. Therapeutic Peptides and Proteins: Formulation, Processing and Delivery Systems. CRC press 2005
- Protein Formulation and Delivery (Drugs and the Pharmaceutical Sciences S.) Ed: J. McNally Marcel Dekker 1999
- Percutaneous Absorption: Drugs-Cosmetics-Mechanisms-Methodology. (Drugs and the Pharmaceutical Sciences S.) Eds: R. L. Bronaugh y H. I. Maibach. Marcel Dekker. 2005.
- Choi SW, Kim J. Therapeutic Contact Lenses with Polymeric Vehicles for Ocular Drug Delivery: A Review. Materials (Basel). 2018;11(7):1125.
- Rojas-Aguirre Y, Aguado-Castrejón K, González-Méndez I. La nanomedicina y los sistemas de liberación de fármacos: ¿la (r)evolución de la terapia contra el cáncer?. Educación química. 2016;27(4):286-291.
- European Medicines Agency (<http://www.ema.europa.eu/ema/>)
- Agencia española del medicamento y Productos Sanitarios (<http://www.aemps.es/>)

Additional

- Artículos y revisiones en revistas especializadas en el tema.