

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

<b>Code</b>	34098
<b>Name</b>	Dermopharmacy
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	4.5
<b>Academic year</b>	2020 - 2021

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1201 - Degree in Pharmacy	Faculty of Pharmacy and Food Sciences	5	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1201 - Degree in Pharmacy	31 - Dermopharmacy	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
DIEZ SALES, OCTAVIO	134 - Pharmacy and Pharmaceutical Technology

**SUMMARY**

Dermopharmacy is in charge of the elaboration and pharmaceutical control of the different application preparations on the external surfaces of the human body dedicated to complete diverse hygienic, protective, aesthetic or correctives. In this discipline the characteristics of the skin, hair follicles, eccrine sweat glands, apocrine gland and sebaceous gland will be studied as well as the anomalies that justify the use of diverse prepared cosmetics. The basic aspects of formulation of diverse prepared dermofármaceúticos with specific actions are also contemplated. Also, the rehearsals of security and effectiveness of the cosmetic preparations and the guidelines of good practices of production of cosmetic products are studied.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

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

### Other requirements

It is recommended to have studied the matter of Pharmaceutical Technology

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

### 1201 - Degree in Pharmacy

- Knowledge of the skin and mucous membranes as living substrate of the cosmetics products and its dysfunctions.
- Application of the different cosmetic ingredients in the manufacture of cosmetic products.
- Develop skills to develop different dermo-pharmaceutical forms.
- Knowledge of the safety and efficacy controls of cosmetic preparations.
- Use of good manufacturing practice guidelines in the developed of dermo-pharmaceutical preparations.
- Recognition of dermo-pharmaceuticals forms in their legal framework.

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

Dermopharmacy, such and like he/she is defined in the dictionary of the Language Spanish, Real Spanish Academy (Twentieth first edition) it is the branch of the Pharmacy that studies, it manufactures and it not expends products of cosmetic related with pathologies.

Dermopharmacy, is part of the Parapharmacy that although he/she doesn't have definition, he/she understands the products that not being medications improves the health, they waste away, they apply or they use for the human being and/or envelope the body and that they put on to the users' disposition, of conformity and with arrangement to what settles down in the sanitary regulations technician, specify of the different categories of products that exist in the market, as well as in the dispositions of general character.

The result of the learning will allow the student the participation, in three performance environments, in the section of Dermopharmacy:

- formation,
- elaboration



- and dispensation of cosmetic products

## DESCRIPTION OF CONTENTS

### 1. Introduction to dermatopharmacy

Prepared dermatofarmacéuticos: definitions and classification. Legal goal. Inventory and Nomenclature of Cosmetic Ingredients (INCI).

The skin. Physiology and its structures. Disfunctions of the subcutaneous and conjunctive. Defect of the epidermal structure. Aspects of the skin aging. Pattern: eccrine glands, hair follicles and the nails. Physiology and its structures. Defects of the sebaceous gland. Defects of cyclic activity of hair follicle. Malfunction of the nails.

The tooth and oral health. Problems of oral health.

### 2. Ingredients and pharmaceutical forms

Natural Substances. Excipients and active principles of mineral origin, vegetable and, animal.

Synthesis Substances, excipients and active principles.

Cosmetic Forms and formulation approaches: Generalities

### 3. Compounding and dispensing cosmetic products

Cosmetic moisturizer. Humectants. Components of the NMF. Lipids and moisturizing emulsions. Formulation types.

Cosmetic for skin aging. Regeneration of skin. Disorders of the skin. Products for oil skins. Specific treatment for acne. Types of formulation.

Sunscreen, suntan and anti-sunburn preparations. Suntan preparations. Palliative preparations

Bath preparations. Foam baths. Formulation and types of products. After-bath products.

Shampoos. Formulations. Anti-dandruff shampoos. Conditioning shampoos. Hair tonics.

Other cosmetic treatments. Protective creams. Hair straighteners: types and preparation. Antiperspirants and deodorants. Coloured make-up preparations.

Dentifrices. Basic requirements of a dentifrice. Toothpastes. The toothbrush and the toothbrushing. Mouthwashes.

### 4. Security and efficacy assays of cosmetic products

Alternative methods testing for cosmetic products evaluation.

Efficacy of a cosmetics products. Non-invasive biophysics techniques

Methods biophysical non invasivos and physiologic state of the skin. Hydrate of the horny stratum: electric methods, methods espectroscópicos. Diffusion of water in the horny stratum. pH of the cutaneous surface. Coloration of the skin. Determination of the sanguine flow at cutaneous level. Termografía. Properties biomecánicas of the skin

**5. Good manufacture practice of cosmetic products**

Good practices of production of cosmetic products. Personal. Local. equipment. Production, packed and storage of completed products

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	25,00	100
Laboratory practices	14,00	100
Tutorials	4,00	100
Preparing lectures	45,00	0
Preparation of practical classes and problem	17,50	0
<b>TOTAL</b>	<b>105,50</b>	

**TEACHING METHODOLOGY**

Theoretical classes. In this classes the professor will give a general vision of the topic study object making special stress in the new aspects or of special complexity and making use of the new tools of the information and communication. They will be indicated the students the points that should revise previously to the attendance to each class. The professor provides the student's participation.

Practical of laboratory . It will be carried out the elaboration in different cosmetic ways

Tutorships. The students will go to them in reduced groups. In them, the professor will evaluate the process of the students' in a way general learning. Equally, the tutorships will be good to solve doubts that you/they have been able to arise along the classes and it will guide the students on the methods

**EVALUATION**

The acquired knowledge will also be evaluated by means of the realization of a written test. The test will consist of questions of true / false, multiple choice questions, conceptual questions and practical problems on elaboration of cosmetic preparations that will allow the student to demonstrate the grade of assimilation of the fundamental concepts.



To evaluate the laboratory practices, of obligatory attendance, he/she will have to surrender memory and analytic report with the results obtained in all the carried out practices. Also, during the last session of practical, he/she will be carried out an exam on questions tried during the realization of the same ones.

90 % of the global mark corresponds to theory activities evaluation and 10% to practical sessions examination.

When a student does not submit to the theory exam at the first regular call for the academic year but has been evaluated in any of the rest educational activities (laboratory practice, tutorials,...) the qualification report will be not attended. However, if in the second call, the student does not attend the theory exam, the qualification report will be failed, and the numerical will be calculated according to the percentages allocated to each of the activities carried out. In summary: in second call not attended will qualify only students who had not attended any of the activities integrating the subject.

## REFERENCES

### Basic

- PONS GIMER L, PARRA JUEZ, Ciencia cosmética. Bases fisiológicas y criterios prácticos. CGCOF (1995)
- WILKINSON JB, MOORE RJ, Cosmetología de Harry. Diaz de Santos (1990)
- DRAELOS ZD., Cosméticos en dermatología, 1ª Ed. Acibria (1995)
- HERRÁEZ DOMINGUEZ M., DÍEZ-SALES O., Alternative methods to animal testing for cosmetic products evaluation. En Analysis of cosmetic products. Ed Amparo Salvador, Elsevier (2007).

### Additional

- SIMMONS, Cosméticos: formulación, preparación y aplicación. A. Madrid Vicente (2000).
- BONADEO I., Cosmética: Ciencia y Tecnología 1ª Ed. Ciencia 3 (1998)
- CORDERO A., Biología de la piel, 1ª Ed. Panamericana (1996).

## ADDENDUM COVID-19

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

### Methodology





Complementary materials will be added to virtual classroom for theoretical and practical classes.

BBC video conferences to clarify concepts.

Forum to answer questions.

The practical laboratory activities will be held in person.

Tutorials: face-to-face and virtual. For non-face-to-face tutoring, BBC videoconferences will be used.

### **Evaluation**

Reduction of the weight of the final exam from 100% to 90%. Continuous assessments with a weight of 10% will be used. These will be carried out through questionnaires at the end of the Thematic Blocks.