



**School of Natural Sciences**

*Graduate Studies in Science*

**Master of Arts in Science (M.A.)  
Concentration in Cosmetic Science**

**University College**

**Teaneck-Hackensack Campus**

## **PROGRAM DESCRIPTION**

To serve the needs of the large population of cosmetic professionals in the New York metropolitan area, Fairleigh Dickinson University's School of Natural Sciences offers a Master of Arts in Science with a concentration in Cosmetic Science. This concentration, the first of its kind in New Jersey, was implemented in 1982 with the support and approval of the Society of Cosmetic Chemists. Today, FDU's Cosmetic Science program continues to fulfill the needs of those responsible for creating commercial products in the cosmetics, toiletries, and fragrance industries. It enables practitioners to learn the latest advances in their field and helps students to develop advanced skills that can lead to senior assignments in the cosmetics industry. It is also geared to technologists aspiring to supervisory roles in the laboratory or plant. For those without industrial experience, the program can launch a career in the cosmetic industry.

## **FACULTY**

FDU's Cosmetic Science program is unique in that it includes a diversified and talented pool of adjunct faculty who are actively employed within the cosmetic science industries. Because of this, our program is industry focused and remains current.

## **ADMISSION REQUIREMENTS**

Admission requirements include graduation from an accredited college or university with a baccalaureate degree in an allied science (biology, chemistry, biochemistry, or pharmacy); this baccalaureate degree must include a two-semester sequence of Organic Chemistry. The general Graduate Records Examination (GRE) scores must also be submitted along with three letters of recommendation. A minimum of 500 on the Test of English as a Foreign Language (TOEFL) is required for applicants whose native language is not English.

## **FOR MORE INFORMATION, CONTACT**

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You can also visit our web site at <http://alpha.fdu.edu/sons/sonsmacos.htm>

**Fairleigh Dickinson**  
 School of Natural Sciences  
 M.A. in SCIENCE : Concentration in Cosmetic Science

Program

<b>Required Courses (20 credits)</b>		Credits	
COSC 6547	Skin Care Raw Materials & Formulations	3	
COSC 6543	Hair Care Raw Materials & Formulations	3	
COSC 6548	Cosmetic Science Laboratory	2	
PHYS 6753	Applied Colloid & Surface Science	3	
CHEM 6526	Product Development	3	
CHEM 6529	Microtoxicity and Biochemistry	3	
BIOL 6756	Dermal Pharmacology & Immunology	3	
		Total Required Courses	20
<b>Cosmetic Science Electives (6 credits)</b>			
CHEM 6546	Perfumery	3	
CHEM 6524	Quality Assurance	3	
COSC 6549	Color Cosmetics	3	
CHEM	Claims Substantiation	3	
CHEM	Sensory Evaluation	3	
CHEM 6781	Biochemistry	3	
COSC	Applied Organic Chemistry	3	
		Cosmetic Science Electives	6
<b>Free Electives (6 credits)</b>			
MKTG 5532	Strategic Marketing	3	
MKTG 7703	Management of Advertising	3	
MKTG 7704	Buyer Behavior	3	
MKTG 7706	International Markets	3	
MKTG 6601	Marketing Research	3	
CCOM 6041	Technical Information	3	
CCOM 6043	Oral Presentation	3	
MGMT 5515	Strategic Management & Organizational Design	3	
QUANT 5520	Applied Statistical Analysis	3	
		Free Electives	6
		Total Credits	32

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Course Descriptions

**Skin Care Raw Materials & Formulations:** Structure, function, use, chemistry, and application of emulsifiers, emollients, silicones, thickeners, colorants, chelators, preservatives, and other ingredients in skin care products.

**Hair Care Raw Materials and Formulations:** Structure, function, chemistry and application of surfactants, polymers, preservatives, and other ingredients in hair care products.

**Cosmetic Science Laboratory:** Hands-on experience creating and evaluating hair and skin care products. Emulsions including creams and lotions; surfactant systems including shampoos and gels.

*Prerequisite: Skin Care Raw Materials & Formulations &/or Hair Care Raw Materials and Formulations*

**Applied Colloid and Surface Science:** The technical aspects of emulsions, solubilized systems, foams, and dispersions. Principles of colloid science and practical applications in cosmetic formulation chemistry.

**Product Development:** Principles of research & development and marketing of new products. Idea generation, process flows, timelines, basic research, lab testing, quality assurance, process engineering, and validations.

**Microtoxicity and Biochemistry:** Relationships between microorganisms, toxicity and cosmetic products. Applications of the principles of biochemistry and toxicology in relation to and impact on both microorganisms and human metabolism.

**Dermal Pharmacology and Immunology:** Skin structure, function, and immunology and their impact on the application and efficacy of cosmetic products. Skin safety testing, pharmacokinetics, and pharmacodynamics.

**Quality Assurance in the Cosmetic Industry:** Regulations, controls, analytical methods, administrative quality controls, global regulatory affairs, and statistical methods for evaluation of data.

**Perfumery:** History of perfumery and methods of creating fragrances. Chemistry of natural and synthetic aroma raw materials and their interactions. Safety, quality control, evaluation, and marketing.

**Color Cosmetics:** Conventional colorants, specialty pigments, and fillers in cosmetic products. Formulation types including suspensions, powders, emulsions, solvent and non-solvent systems. Worldwide cosmetic color regulations.

**Claims Substantiation:** Proposed

**Sensory Evaluation:** Proposed

**Biochemistry:** Structure and function of biological molecules

**Applied Organic Chemistry:** Proposed

Course descriptions of the Free Electives can be seen in the current Graduate Studies Bulletin.

