Department of Pharmaceutical Chemistry

Master of Pharmacy in Cosmetic Science

PROGRAM HANDBOOK

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KKU Vision, Mission, and Goals

Vision

A globally leading university committed to human empowerment, regional development, and economic enhancement.

Mission

An invigorating academic setting that fosters knowledge creation and application, champions research and innovation, emphasizes societal responsibility and advances sustainable development by maximizing our potential and resources.

Goals

- Enhance educational outcomes to meet the needs of labor market requirements an
- sustainable development.
- Advance research and innovation in response to societal and economic imperatives.
- Foster a culture of social responsibility and encourage volunteerism.
- Enhance the overall quality of academic life.
- Realize and maintain institutional excellence for students and staff.
- Diversify and nurture sustainable revenue streams.

College of Pharmacy Vision, Mission, and Goals

Vision

To accomplish national and international recognition for excellence in education, research, and community partnership.

Mission

To improve healthcare by effectively utilizing resources and creating a motivating environment that promotes high-quality education, research, and community partnership.

Goals

1. Foster a high-quality pharmacy education and practice in a supportive environment
2. Achieve excellence in research and innovation
3. Promote voluntary work and community partnership
4. Improve administrative work, and enrich financial resources

Program Mission

To prepare professionals with knowledge and skills on the science, research, and development of cosmetics that ensure competent practices and public wellbeing.

Description of the Program

The Master of Pharmacy in Cosmetic Science is a two-year full-time program for graduates from health sciences, pharmaceutical sciences, or similar subjects who have appropriate job experience. This curriculum offers thorough, up-to-date information and practical skills required for professional advancement in the cosmetic field. It educates students how to formulate, develop, and evaluate cosmetics while maintaining quality, safety, and regulatory compliance in mind.

Graduates will get a diverse set of knowledge and skills, preparing them for career advancement in the cosmetic science market. They will be able to use their knowledge and skills learned during the program to assess industry trends, synthesize data from various scientific sources, and critically evaluate product development processes. The program promotes innovative thinking in cosmetic research, formulation, and the use of new technology. The program also emphasizes sustainability and ethical practices, preparing graduates to make informed decisions in resource management and product development.

Program Goals

1. Support the ongoing educational needs in the field of cosmetics through continuing education and advanced programs.

2. Enhance the professionals' ability to apply the principles of cosmetic sciences and utilize them efficiently in their practice.
3. Develop essential research skills and expertise required for designing, validating, and analyzing various cosmetic products.
4. Improve community knowledge on rational use and safety of cosmetics by providing community outreach programs.

Graduate Attributes for Master of Pharmacy in Cosmetic Science

On successful completion of the program the graduates will have:

1. Deep understanding of cosmetic related sciences
2. Commitment to lifelong learning and career development
3. Essential skills to access and critique research findings from scientific literature in cosmetic R&D
4. Fundamental knowledge on rational use and safety of cosmetics that ensure public wellbeing
5. Personal responsibility and professional ethics

Program Learning Outcomes (PLOs)

Knowledge and understanding	
K1	Describe essential knowledge in subjects related to cosmetics, including Physiology, Immunology, Microbiology, Biostatistics, Toxicology, and Chemistry of cosmetic raw materials.
K2	Recall the concept and principles of formulation, Quality Assessment (QA), and Toxicology of cosmetic products.
K3	Describe the potential safety, efficacy, toxicity, and allergic concerns of cosmetic products and possible interactions with other pharmaceutical preparations.
K4	Recognize current national/international rules and regulations pertinent to the design, safety & Risk assessment, and approval of cosmetic products.
Skills	
S1	Apply up-to-date ethical, legal, quality, and safety practices related to cosmetics.
S2	Develop skills in practices relevant to the critical evaluation and make a judgment of scientific literature and research methodologies within the area of cosmetic science.

S3	Apply knowledge of sciences related to cosmetics in practice
S4	Develop the skills necessary for the formulation, validation, safety, efficacy, and toxicology of potential cosmetic products.
S5	Show appropriate levels of communication skills in conveying scientific knowledge and expertise to scientific/non-scientific audiences.
Values, Autonomy, and Responsibility:	
V1	Adopt professional communication skills that are appropriate to all parties.
V2	Cooperate in inter-professional and educational activities.
V3	Accept professional ethics, positive criticism, feedback, and engage in life-long learning.

General and Specific Admission Requirements for Applying to MPCS Program

1. The applicant must be Saudi, have a Saudi mother, or have an official scholarship for postgraduate studies if he is not Saudi.
2. Obtaining a university degree from a Saudi university or another recognized university, along with an equivalency certificate from the Ministry of Education.
3. To be of good conduct and medically fit.
4. The applicant must be subject to the selection criteria that are conducted among applicants.
5. English language test results submitted by private or non-accredited institutes are not accepted.
6. General Aptitude Test results for university students will not be accepted after five years from the test date.
7. English language test results (TOEFL, IELTS, STEP) are accepted.
8. Payment of tuition fees (the tuition fees specified for each program, do not include fees for supplementary courses, if any, nor fees for courses in which the student fails, nor fees for additional semesters if the student does not obtain the degree within the period specified for the program.
9. The applicant must have a bachelor's degree with a grade of no less than good, in the field of: Pharmacy or specializations related to pharmacy.
10. Passing the STEP English language test with a score of no less than (67) or its equivalent.

Note: For more information on the general admission requirements, Deanship of Research and Graduate Studies, please visit: https://dps.kku.edu.sa/ar/node/812 and on the specific admission requirements, please visit: https://dps.kku.edu.sa/ar/node/787

Requirements of Program

The MPCS core curriculum covers essential areas including cosmetic raw materials, formulations, quality control, as well as safety and toxicology. It also includes related courses on biostatistics, cosmetic regulations, and culminates with a research project, providing a strong foundation in cosmetic product development and regulatory practices.

Course Name	Course Code	Credit Hours
Physiology & Immunology	PCH-8101	3+0
Cosmetics Raw Materials I	PCH-8102	2+0
Biostatistics	CPH-8001	2+0
Cosmetics Raw Materials II	PCH-8104	2+0
Quality Control of Cosmetics I	PCH-8105	3+0
Cosmetic Formulations I	PCH-8103	2+1
Cosmetic Formulations II	PCH-8107	2+0
Quality Control of Cosmetics II	PCH-8106	2+1
Safety & Toxicology of Cosmetics	PCH-8108	1+0
Research Project Design Seminar	PCH-8109	1+1
Cosmetic Policies & Regulations	PCH-8110	1+0
Research Project	PCH-8111	6
Experiential Field	PCH-8112	3
Total MPCS courses credit hours for all programs		**33**

Program Study Plan

	Semester 1		Semester 2	
	Course	Credit Hours (Theory/ Practical)	Course	Credit Hours (Theory/ Practical)
Year 1	PCH-8101	(3/-)	PCH-8103	(2/1)
	PCH-8102	(2/-)	PCH-8104	(2/-)
	CPH-8001	(2/-)	PCH-8105	(3/-)
	PCH-8110	(1/-)	PCH-8108	(1/-)
	Total	8		9
Year 2	PCH-8106	(2/1)	PCH-8111	6
	PCH-8107	(2/-)		
	PCH-8109	(1/1)		
	PCH-8112	(3/-)		
	Total	10		6
	Total Hours Required			33

Course Description

(PCH-8101) Physiology & Immunology: This course describes the basics of physiology and immunology of integumentary systems (i.e., skin, nail, hair, and oral cavity). It is structured to familiarize students with biological systems interacting with cosmetics. This course will introduce learners to the anatomy and functions of the skin, hair, nail, lips, cheeks, tongue, teeth, and gingiva. It also covers topics of skin immune cells components and their potential sensitive skin syndrome.

(CPH-8001) Biostatistics: This course is designed to introduce students to the basics of statistics used in the field of health sciences. The course helps students understand, evaluate, and conduct introductory descriptive and inferential statistics.

(PCH-8102) Cosmetics Raw Materials I: This course is structured to expand the learner's knowledge concerning the chemistry and primary function of cosmetic raw materials and how they can be valuable during the formulation process. It covers topics that include the nomenclature, structure, and chemical properties of several raw materials used in different cosmetic preparations such as creams, depilatories, deodorants, shaving products, foot care preparations, sunscreens, and colored make-up preparations. This course also delineates these chemicals' structure-activity relationship and compatibility in numerous cosmetic formulations.

(PCH-8104) Cosmetics Raw Materials II: This course is structured to expand the learner's knowledge about chemistry and the primary function of cosmetic raw materials and how they can be valuable during the formulation process. It covers topics that include the nomenclature, structure, and chemical properties of several raw materials used in different cosmetic preparations such as shampoos, hair setting lotions, hair sprays, hair colorants, hair tonics, dentifrices, mouth washes, antiseptics, preservatives, and antioxidants. This course also delineates these chemicals' structure-activity relationship and compatibility in numerous cosmetic formulations.

(PCH-8105) Quality Control of Cosmetics I: This course aims to equip students with fundamental concepts of quality assurance and quality control utilized in the cosmetic industry. It covers the theoretical aspects of analytical instrumentations, the official methods of analyses and method

development of cosmetic analyses. This course also features the current regulations used in rheological and microbial quality control of cosmetics products.

(PCH-8106) Quality Control of Cosmetics II: This course aims to provide quality control practices in the analysis and bioanalysis of cosmetic products. It features analytical approaches, including official methods for quality control and monitoring of selected cosmetic ingredients. This course also covers the concepts of green cosmetics. In addition to the theoretical part, the laboratory module offers hands-on training on analytical techniques used in cosmetics quality control.

(PCH-8103) Cosmetic Formulations I: This course will cover the methodologies used to develop the major types of cosmetics and toiletries products. Idea generation, formulation development, manufacturing considerations and stability testing will be discussed for each product type. Among the product types to be studied will be creams, lotions, makeup, shaving, soaps and hair products (e.g., shampoos, conditioners, waving products and grooming products).

(PCH-8107) Cosmetic Formulations II: The purpose of this course is to expand the learner's knowledge about delivery systems utilized in cosmetic formulations. This course delves into describing surfactants, emulsion types, liposomes, niosomes, aerosols, foams, gels, and nano-based delivery systems.

(PCH-8108) Safety & Toxicology of Cosmetics: This course is designed to provide learners with essential knowledge about the safety, toxicity, and toxicological evaluation methods of cosmetic products. This course discusses necessary information related to the principles of toxicology, disposition of toxicants, the toxic response of the skin, various safety evaluation procedures, risk assessment of cosmetics, and safety requirements for regulatory submission. It also offers a detailed theoretical description of animal and non-animal models utilized for assessing toxicity and safety cosmetics.

(PCH-8109) Research Project Design Seminar: This course is designed to expose students to scientific research design principles and improve their professional presentation skills. Students will be familiarized with topics pertinent to the rigorous methodologies of writing a research proposal, journal article, and poster. It enables students to work on their research proposal to

prepare them for the final research project. Students will then be allowed to present and discuss their ideas on issues related to their research topics in a way where they can integrate their knowledge and skills.

(PCH-8110) Cosmetic Policies & Regulations: This course aims to cover the national and international legislations relevant to safety, efficacy, manufacturing and administration requirements of cosmetics. It discusses Gulf cooperation council standardization organization (GSO) requirements for safety assessment, animal and microbial testing. This course further explains policies regarding the manufacturing of cosmetics including cGMP, labelling and packaging requirements, product claims, and distribution. This course also provides the regulatory requirements of Saudi food and drug authority (SFDA) for the development, import, distribution, sales and marketing of cosmetics.

(PCH-8111) Research Project: The main purpose of this course is to provide students with hands-on research experience through selected project work and improve their thinking and communication skills. Under supervision of academic staff, students will be conducting research on a relevant topic that will allow students to formulate a research hypothesis, critique literature, design experimental methodologies, analyze data, and draw logical conclusions. At the end of this course, the students are required to present their work in an oral poster presentation and in journal manuscript format.

(PCH-8112) Experiential Field: This course is designed to immerse students in the multifaceted world of cosmetics science, ensuring they acquire a comprehensive set of skills that are crucial for success in the industry. This course encompasses various critical aspects, including legislation, marketing, manufacturing, assessment, and application of cosmetic products. By engaging in a collaborative effort with several public and commercial institutions, this course provides students with a robust and practical understanding of the field.

Approval:

Council / Committee	Department Council
Reference No.	11th meeting 1446
Date	24/02/2025 (25/08/1446H)