

M.S. IN SKIN BIOLOGY AND DERMATOLOGICAL SCIENCES (ONLINE)

Online Program Overview

The online Master of Science in Skin Biology and Dermatological Sciences (SBDS-MS) program prepares students for careers and leadership in skin science and industry. The curriculum covers basic science and laboratory research techniques, as well as management skills, grant & regulatory issues, enterprise issues, and clinical problems.

The Master of Science in Skin Biology and Dermatological Sciences program is unique in its depth and breadth because it covers basic science in skin biology and laboratory research techniques. In addition, the degree considers a variety of additional skills to help students succeed in industry and academia, for it considers management skills, grant writing, regulatory issues, enterprise issues, and clinical problems.

Skin biology includes many biological processes: development, perpetual differentiation and barrier maintenance, stem cell biology, tissue repair and regeneration, neogenesis, native and adapted immunity, and genetic disorders just to name a few. The areas represented in our research base include skin biochemistry, genomics, immunology, microbiology, inflammation, pharmacology, cell and stem cell biology as well as clinical research using areas of a variety of skin disorders, aging, aesthetics, cancer, and wounds as a clinical touchpoint.

Training in all these aspects is currently not provided by any single program in the United States. Thus, a Master's degree in Skin Biology and Dermatological Sciences will impart a unique skill set and research background. There is a growing need for knowledgeable healthcare professionals. Healthcare providers, policy makers, research scientists, academic practices in the US and in the rest of the world, as well as makers of skin and skincare products from devices, drugs and cosmeceuticals and their workers need trained personnel. The coursework in this degree program will offer essential scientific knowledge, management, and administrative skills that will be helpful for individuals desiring a skin sciences oriented career.

Contact

Jie Li, MD, PhD, Graduate Program Director

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MS in Skin Biology and Dermatological Sciences

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Admission Requirements

1. A bachelor's degree from an accredited institution must be conferred before the intended start date.
2. A cumulative grade point average (GPA) of 3.0 or above is required for candidates with bachelor's or Master's degrees. GPA is not required for candidates with MD or PhD degree.
3. A GRE general test or MCAT score is highly recommended but not required. The test will be waived for candidates with MD or PhD degree.
4. English proficiency requirement: Test of English as a Foreign Language (TOEFL) score of 80 for the internet based test (iBT), or 550 for the paper based test (PBT); or 6.5 on the IELTS (International English Language Testing System); or 125 on the Duolingo English Test is required for those candidates who graduated from foreign institutes.
5. A personal statement, including past experience and future career goals, is required as part of the application.
6. Three to five letters of recommendation from research or clinical mentors or teachers.

Curriculum Requirements

Code	Title	Credit Hours
DER 600	Cutaneous Biochemistry, Cell Biology and Genetics (This course may be waived) ¹	0-3
DER 601	Introduction to Dermatology	1
DER 603	Skin Biology and Pathophysiology ²	3
DER 605	Microbiology and Immunology of the Skin ²	3
DER 606	Dermato-epidemiology	2

DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 613	Techniques in Skin Research ³	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 622	Introduction to Dermatopathology	1
DER 623	Techniques in Skin Research- II ⁴	1
DER 631	Advances in Dermatology	1
DER 632	Advances in Dermatology	1
DER 633	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
DER 642	Frontiers in Sciences	1
DER 643	Frontiers in Sciences	1
Total Credit Hours		30-33

¹ To request a waiver, contact the Program Director.

² Prerequisite: DER600 (to request waiver, contact the Program Director).

³ Prerequisite: DER603

⁴ Prerequisite DER613

Sample Plan of Study

*Students who need to take DER 600 should take it in the Summer Session B prior to Year One Fall.

Year One		
Fall		Credit Hours
DER 601	Introduction to Dermatology	1
DER 603	Skin Biology and Pathophysiology	3
DER 605	Microbiology and Immunology of the Skin	3
DER 606	Dermato-epidemiology	2
DER 631	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
Credit Hours		11
Spring		
DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 613	Techniques in Skin Research	1
DER 622	Introduction to Dermatopathology	1
DER 632	Advances in Dermatology	1
DER 642	Frontiers in Sciences	1
Credit Hours		11
Summer		
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 623	Techniques in Skin Research- II	1
DER 633	Advances in Dermatology	1

DER 643	Frontiers in Sciences	1
	Credit Hours	8
	Total Credit Hours	30

Mission

Our mission is to foster future generations of skin scientists, physician scientists and industrial leaders in skin care as well as skin related drug and device development.

Goals

In alignment with the university's strategic vision, the goals of the program are:

- Train Master's students in a focused knowledge area of Skin Biology and Dermatologic Science; and
- Train Master's students in requisite research and research management skills.

Student Learning Outcomes

- Students will demonstrate advanced knowledge of the fundamentals of skin biology.
- Students will demonstrate advanced knowledge of dermatological science and skin disorders.
- Students will demonstrate advanced knowledge of innovation, technology and regulations in the field of skin biology and dermatological sciences.