DISCIPLINE DESCRIPTION

DOCTOR OF MEDICINE

The qualifications described below represent commonly accepted good practices for teaching in the discipline(s) represented in the unit.[1]

General description of the unit, including academic programs and course offerings[2]

Beginning in Fall 2009, UCF offers the first-professional Doctor of Medicine (MD) degree. The MD program resides within UCF's College of Medicine (COM) but does not belong to a COM department. Rather, oversight for the MD program, its courses (modules), and clerkships are provided directly by the college. At UCF, direct oversight of the MD program is provided by the COM MD Program Curriculum Committee and the Associate Dean for Academic Affairs. The Dean of the College of Medicine has ultimate responsibility for the MD educational program. The faculty members who deliver the medical education curriculum, however, do belong to academic units within the college, including the Departments of Clinical Sciences, Medicine, Medical Education, and Population Health Sciences and the Burnett School of Biomedical Sciences. These include both faculty members employed by UCF and volunteer physicians from the community holding affiliate and volunteer faculty appointments with the college.

The MD curriculum requires a diverse faculty with many areas of specialization to deliver the program's basic science and clinical science curricular requirements. UCF's MD curriculum is different from traditional medical curricula in that it integrates basic and clinical sciences across all four years. It thus requires faculty members with expertise in both areas to participate in medical education throughout the duration of the program. Not only are the basic and clinical sciences taught during all four years of study but the two are also integrated within individual modules so that information learned in a classroom or laboratory can be immediately applied to clinical case studies in various settings. The curriculum also places heavy emphasis on interdisciplinarity. In traditional curricula, each course emphasizes a single disciplinary topic (e.g., anatomy, biochemistry, genetics). In contrast, this MD curriculum offers a uniquely holistic pedagogical approach by incorporating multiple, interrelated disciplinary topics within single modules and interweaving certain themes across the curriculum longitudinally (e.g., ethics, safety, medical informatics). The integrative and interdisciplinary approaches described above and in further detail below require the participation of multiple faculty members representing a wide variety of disciplines and clinical specialties to deliver each module. Therefore, the documentation of appropriate faculty teaching qualifications is better organized by module than by single disciplines. In this regard, the curricular focus of each module is described below. Appropriate degrees and areas of specialization for teaching in each module are listed in the sections that follow.

YEAR ONE

The first-year curriculum focuses on a fundamental understanding of how the various basic science disciplines relate to the normal human body. Each of the modules provides vertical integration of various disciplines and horizontal integration of clinical sciences through the use of clinical cases, vignettes, and clinical skills experiences to motivate and reinforce learning. It is also in the first year that students are introduced to psychosocial factors in illness and its treatment in the Psychosocial Issues in Healthcare module as well as a research experience through the Focused Inquiry and Research Experience.

Human Body (HB) Modules

Students are required to complete three Human Body modules during their first year of study. The modules serve to provide students a fundamental understanding of how the various basic science disciplines relate to the normal human body.

Cellular Function and Medical Genetics. The objective of this module is to provide a better understanding of the biology and biological processes of healthy humans, and pathological states, from the molecular to the cellular level. The eight-week module integrates the disciplines of biochemistry, molecular biology, genetics, nutrition, pharmacology, and cell biology. In this manner, students study the biomolecular structure of cellular components, learn about their role in molecular biology and genetics, and observe their functions inside the whole cell or within the cellular domain. As more molecules and cellular components are introduced, the relationship between molecular structure and its influence on a compound's ability to interact with other biomolecules is examined. Weekly topics include interdisciplinary discussions of nucleic acids, proteins, carbohydrates, lipids, steroids, hormones, nutrients, and metabolism in cell biology. Positioned at the beginning of the curriculum, this module provides the basic science foundations necessary for student success in the later modules.

Structure and Function. This module takes a multidisciplinary approach to fully integrate the disciplines of anatomy, physiology, histology, embryology, and neuroscience. The module is designed to provide a basic understanding of the normal human body and development, with emphasis on the dynamic relationships between structure and function. Students can apply their understanding of three- dimensional anatomy to interpreting normal medical imaging. The module runs in parallel to and is integrated with the Practice of Medicine 1 module so that students have the opportunity to apply their understanding of the normal body immediately to the interpretation of medical testing, diagnosis, treatment, and identification of abnormal findings and disease processes.

This 16-week module utilizes multiple learning modalities, including case-based small-group experiences, team-based learning, lectures, and laboratories (e.g., cadaver dissection, medical imaging, histology). Small-group case-based settings are designed to promote students' understanding and application of the basic science concepts discussed in large-group experiences and to enhance clinical problem-solving skills.

Health and Disease. This is a 10-week module of the integrated first-year basic science curriculum. It provides students with a thorough grounding in four major subject areas: immunology, microbiology, pharmacology, and epidemiology. The most significant bacterial, viral, fungal, and parasitic infectious diseases are covered in detail, with emphasis on epidemiology, typical clinical presentation, biological characteristics and pathogenic mechanisms of causative agents, immune responses to infection, and treatment with antimicrobial pharmaceuticals. Students are also introduced to the major classes of antimicrobial drugs and their modes of action at the cellular and molecular levels. Infectious diseases are organized primarily by organ system in order to present information as it would be encountered in clinical practice. A combination of didactic lectures, large-group case-based discussion sessions, small-group case-based discussion sessions, self-learning modules, and supplemental materials is used to deliver the content and to facilitate various learning styles. Formative feedback is provided throughout the module in the form of weekly quizzes and a mock midterm exam.

Psychosocial Issues in Healthcare (C) Module

In concert with some first-year modules, students receive instruction regarding psychosocial issues in medicine.

C-1 Psychosocial Issues. Psychosocial Issues in Healthcare is an 11-week module delivered at the end of the first year. The goal of this module is to provide students with an understanding of the role of psychosocial factors in illness and its treatment. Students are exposed to a range of issues that affect how they diagnose, treat, and interact with patients and their families. Students also learn about wellness and preventive medicine, along with strategies for assessing and improving adherence to treatment recommendations. A focus of this module is on development and refinement of communication skills, particularly when interacting with patients whose values, beliefs, and experiences differ from those of the student. Other topics include human development, death and dying, the role of stress in illness, professional boundaries, sexuality, domestic violence and child/elder abuse, and alcohol misuse. This module is taught through team-based learning, which provides students with the opportunity to apply their knowledge in challenging clinical cases, facilitating their mastery of the material, improving their communication skills, and enhancing their ability to function as a member of a healthcare team.

Practice of Medicine / Community of Practice (P) Module

Immediately upon beginning medical education, MD students are introduced to the practice of medicine to begin to gain experience in communication, history taking, physical exam skills, and cultural competency.

P-1 Practice of Medicine. Practice of Medicine and Community of Practice comprise a yearlong instructional module that prepares students for the clinical aspects of medicine. Specific areas of instruction include interpersonal communication, physical examination, and medical documentation skills. These skills are mastered with an emphasis on patient-focused, compassionate, and professional behavior and are taught in the larger context of multicultural medicine, medical ethics,

gender-specific medicine, and other related socioeconomic aspects. Some of the longitudinal curricular themes are presented. Students develop and enhance their skills utilizing multiple modalities including small-group interaction, simulations, and standardized patients. Community of Practice is a longitudinal experience within the Practice of Medicine module that provides a structured interaction with the Central Florida medical community with an emphasis on clinical as well as business aspects of medicine. The module runs in parallel with year-one modules and reflects clinical concepts introduced in these integrated modules.

Focused Inquiry and Research Experience (FIRE) Module 1

The central purpose of this module is to allow each student to independently pursue an area of passion that brought him or her to medical school. Students receive training, tools, and mentorship enabling them to successfully conduct a rigorous, independent, and scholarly research project. The project may be in any area of interest related to medicine and in which a Research Mentor can be identified and a rigorous scholarly design can be applied. In addition to the Research Mentor, the student is assigned a Faculty Research Advisor who is a member of the Focused Inquiry and Research Experience (FIRE) Committee that oversees student progress and final research project. Students prepare a proposal and may be asked to present during a mini conference at the end of the year.

Organ Systems (S) Modules

Beginning at the end of the first year and continuing throughout the second year, the MD curriculum takes an organ system–based approach and applies the basic knowledge of the Human Body modules to the study of clinical disease, pathological processes, and treatment.

Hematology and Oncology. Hematology and Oncology is an integrated overview of major hematologic diseases and basic neoplasia. The topics include hemostasis, anemias, nonneoplastic blood disorders, basic neoplasia, carcinogenesis, cancer genetics, and hematologic malignancies. Pathology, pharmacology, laboratory, and clinical medicine disciplines are included, and an emphasis is placed on disease classification, differential diagnosis, and current treatment strategies. This module includes active lectures, laboratories, and case-based learning. Students learn how to apply discipline knowledge to hematologic and oncologic diseases so that they will be prepared to manage patients in clinical clerkships and beyond.

YEAR TWO

Cardiovascular and Pulmonary Systems. The Cardiovascular and Pulmonary Systems module is an integrated overview of major disease conditions of the cardiovascular and respiratory systems. The cardiac sequence (taught first) and pulmonary sequence (taught second) build on knowledge of these systems learned in the first year. Both sequences will use a multidisciplinary approach, incorporating pharmacology, pathophysiology, and clinical medicine. To help prepare students for the third and fourth years, disease etiology, presentation, evidenced-based clinical management, and related disciplines are emphasized. The educational format varies, including active lectures, team-based learning, and laboratories.

Endocrine and Reproductive Systems. The Endocrine and Reproductive Systems module block in the second year provides an overview building on knowledge learned of structure and function of endocrine, reproductive, and genitourinary disorders, focusing on major disease classification and terminology, signs and symptoms, methods of diagnosis, and differential diagnosis as supported by evidence-based medicine. Basic science and clinical concepts from the first year are applied to the understanding and treatment of disease of these systems. This module focuses on molecular and cellular pathology and clinical, pathologic, and laboratory findings, as well as treatment and management of patients with common metabolic and endocrine disorders such as diabetes mellitus, growth and pubertal development, obesity, endocrine and hormonal causes of hypertension, and pancreas, parathyroid, thyroid, adrenal, and neuroendocrine disorders. Male and female reproductive endocrinology, pathology, and pharmacology are addressed and include attention to psychosocial dynamics that affect disease of these systems including coverage of healthcare disparities. In addition, this module covers the pathophysiology and pathology of nutritional inadequacies or excesses and their clinical manifestations, prevention, and treatment.

Gastrointestinal and Renal Systems. This module focuses on diseases of the gastrointestinal tract, including the hepatobiliary system, and nephrology, including diseases of the urinary tract. These areas focus on the pathology, pathophysiology, signs and symptoms, diagnostic methods, and drugs used for the treatment of GI and urinary tract diseases. The basic science and clinical concepts of year one are expanded to include the pathology and pathophysiology, as well as the pharmacological treatments, of diseases of these systems. This module emphasizes the molecular and cellular pathology, clinical, pathologic, and laboratory findings, treatment, and management of patients with GI, hepatic, and genitourinary disorders.

Skin and Musculoskeletal Systems. The Skin and Musculoskeletal Systems module is focused on the pathology, diagnosis and treatment of disorders of the skin and the musculoskeletal systems. Students build on basic science and clinical concepts from year one to understand common presenting complaints, diagnostic techniques, and treatment methods for cutaneous and musculoskeletal disorders. This module emphasizes the molecular and cellular pathology, clinical, pathologic, and laboratory findings, treatment, and management of patients with diseases of the skin and musculoskeletal system. Treatment methods include pharmacological, physical, and surgical modalities.

Brain and Behavior. The Brain and Behavior module emphasizes the molecular basis and pathophysiological processes of common neurological disorders. The module focuses on basic and common neurologic issues, integrated with an understanding of their effects on other physiologic systems. The module includes an overview of neuroanatomy and neurophysiology, with correlation to disorders of the central and peripheral nervous system. This module offers an in-depth understanding of the molecular basis of neurologic disorders, pathology, pathophysiology, diagnosis, and treatment. Inclusive in the study of nervous system disorders is the study of developmental and psychiatric disorders along with their pathology, diagnosis, and treatment.

Practice of Medicine / Community of Practice (P) Module

P-2 Practice of Medicine. The goal of the Practice of Medicine continuum is to help students develop the essential knowledge and skills to optimally participate and learn in clerkship-level clinical care environments.

Practice of Medicine-2 is a yearlong module, integrated with the organ systems (S) modules, that teaches advanced clinical skills and stresses the development of clinical reasoning. The module builds on physical examination and medical interviewing skills learned in the first-year module. Key areas of learning include advanced oral presentation and medical documentation skills, development of basic clinical decision-making, and application of selected diagnostic tests. Integration with the Systems modules highlights the link between foundational knowledge and clinical practice while promoting intellectual curiosity, self-directed learning, and clinical reasoning skills.

The module's instructional activities incorporate a variety of modalities to promote experiential learning and skill acquisition. These include interactive presentations, small-group sessions, student-directed independent learning tasks, and Clinical Skills and Simulator Center (CSSC) exercises. The CSSC provides the setting for student encounters with Standardized Patients (SPs), high-fidelity simulators, and task trainers as well as web-based activities for the learning, practice, and assessment of clinical skills.

The Community of Practice component, a longitudinal clinical experience, is integrated within the module as students continue to work with preceptors throughout the Central Florida medical community, expanding their experiences in a clinical setting. Longitudinal Curricular Themes (LCT) are interwoven throughout the course with the aim to help students appreciate the complexity and interdisciplinary nature of caring for patients.

Focused Inquiry and Research Experience (FIRE) Module 2

The central purpose of this module is to allow each student to experience the research process and develop skills of intellectual inquiry that are transferable to the practice of medicine. A research project may be in any area of interest related to medicine in which a Research Mentor can be identified. The curriculum includes training and tools to foster a habit of inquiry that will guide the pursuit of the selected area of interest. Research Mentors oversee the creation (year one) and complete (year two) of a rigorous, independent, and scholarly research project. Students complete their projects initiated during year one and present them to faculty members and peers during the FIRE Research Conference. The conference is scheduled so that both first-year and second-year students can participate, providing opportunities for second-year students to serve as role models for their classmates. This module provides students with a strong foundation for lifelong exploration and evaluation of research so that they can advance knowledge, technology, and methods relevant to biomedicine, effectively employ evidence-based medicine practices, and ultimately improve clinical outcomes.

YEAR THREE

Clerkship Modules

The third and fourth years of the curriculum are devoted to clinical experiences through clerkships, selectives, and electives. Fundamental knowledge from the first two years is reinforced through lectures, simulations, journal clubs, and conferences during the seven core clerkships.

Following a one-week orientation to the third year, students rotate through a set of required core clerkships in General Surgery, Internal and Family Medicine, Neurology, Obstetrics and Gynecology, Pediatrics, and Psychiatry.

General Surgery and Surgical Selectives. The Surgical Clerkship introduces the student to the workup, diagnosis, treatment, and follow-up of a wide variety of surgical diseases. Evidence-based practices are emphasized. Students spend four weeks on a general surgery core rotation such as general, trauma, or pediatric surgery and the remaining four weeks on one surgical selective in specialties such as anesthesiology, colorectal surgery, ophthalmology, orthopedic surgery, plastics and wound healing, thoracic surgery, urology, or vascular surgery. Students also have a four-week elective period within the 12-week course.

Students are responsible for the evaluation and workup of patients in the emergency room and wards as well as in the outpatient setting. Participation in daily inpatient multidisciplinary ward rounds is emphasized as well as active participation in a wide array of bedside surgical procedures and major operative interventions under general anesthesia. In-hospital call is a requirement. Students are also responsible for regular attendance at grand rounds, journal clubs, morbidity and mortality conferences, tumor boards, and simulator/animal lab experiences.

Internal and Family Medicine. During this clerkship, students participate and demonstrate competence in humanistic and evidence-based inpatient and outpatient care of patients with common medical disorders. Students also learn appropriate health promotion and health screening for adult patients. Students learn to work as part of a medical team in all settings and work to understand the roles of the interdisciplinary patient care team. Learning activities include preceptor-supervised clinical experiences, clerkship-specific didactics, use of standardized patients and medical simulations, and self-directed learning utilizing information technology. The clerkship has specified the types of patients and clinical conditions students need to encounter and the physical examination skills and testing and procedural skills that students need to master.

Neurology. Between 10 percent and 15 percent of primary care visits may involve complaints referable to the nervous system. Neurologic problems may account for up to one in five hospital admissions. Stroke is the third leading cause of death in the United States—and is the single most common cause of long-term disability—and Alzheimer's disease is a growing public health problem. For these and other reasons, education of nonspecialists in the diagnosis, treatment, and prevention of neurologic disease is essential to integrated healthcare delivery. The goal of the Neurology clerkship is to formulate a diagnosis, begin an appropriate diagnostic evaluation, and initiate a rational treatment plan for common neurologic conditions. The clerkship accomplishes these aims by applying clinical neuroscience to neurologic history and examination. Inpatient and outpatient experiences expose students to the full spectrum of neurologic disease.

Obstetrics and Gynecology. While on the Obstetrics and Gynecology clerkship, students are considered an integral part of the clinical team and have the opportunity for a broad range of clinical experiences in the Labor and Delivery suite, operating room, ambulatory clinics, and inpatient hospital services. Didactic sessions including lectures, clinical skills workshops, and case study seminars supplement the core clinical experience. Students come away from the clerkship with an understanding of the role of the obstetrician/gynecologist as a primary healthcare provider for women of all ages, the importance of the gynecologic history and physical examination in the overall assessment of the health of women, and the major significance of competent obstetrical and gynecologic care in public health and preventive medicine.

Pediatrics. This clerkship introduces third-year medical students to the basic principles of general pediatrics. Through both inpatient and outpatient encounters with children across the age range of pediatric—from neonates through young adulthood—students receive exposure to the clinical care of children. Students participate in the newborn nursery and outpatient health supervision visits where the fundamental concepts of the pediatric interview and physical exam, growth and development, anticipatory guidance, primary prevention, screening, and vaccination are presented. Clinical experience with acute/chronic illness visits affords students exposure to common pediatric complaints and symptoms as well as common pediatric diagnoses. Participation in the inpatient component of this course solidifies students' pediatric skills of data gathering, data synthesis, the development of problem lists and working diagnoses, and formulating therapeutic plans while being a member of a healthcare team providing family-centered care to children.

Psychiatry. During this clerkship, students participate in evidence-based and patient-centered inpatient and outpatient care of patients with psychiatric disorders. Learning activities include preceptor-supervised clinical experiences, clerkship-specific didactics, use of standardized patients, and self-directed learning utilizing information technology. The clerkship has specified the types of patients and clinical conditions students need to encounter as well as the physical/mental examination skills and testing and procedural skills that students need to master.

Longitudinal Clerkship Curriculum. The Longitudinal Clerkship Curriculum consists of eight half-day sessions during the third year in which the whole class comes together. The primary goal of these sessions is to facilitate student achievement of the learning outcomes associated with the Longitudinal Curricular Themes (LCTs). These sessions offer a forum for a multidisciplinary patient care perspective and an opportunity for student self-reflection. The pedagogy emphasizes independent and active learning, which culminates in significant student-led instruction during the sessions. The content of each session is developed through collaboration between the team of students and an LCT Director.

YEAR FOUR

All students are required to complete and pass the following eight blocks:

- One Acting Internship (taken at an affiliated hospital) in any core area (i.e., Critical Care, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Obstetrics and Gynecology, Pediatrics, Psychiatry, Surgery)
- One Selective in Emergency Medicine
- Six Electives (up to four electives may be taken at approved extramural institutions and no more than four electives may be taken in the same core area)

The three remaining blocks of the fourth year may be used for other electives, independent study, further research, residency interviews, or remediation (if needed). Students finish the fourth year with a one-week Capstone Experience that provides specialty-specific preparation for internship, leadership training, and teaching experience.

Longitudinal Curricular Themes

There are a number of longitudinal curricular themes that are taught within several modules and clerkships. While not identified as separate courses, they have theme directors who are appointed on the basis of their disciplinary and professional degrees. These include:

Culture, Health, and Society. Physicians care for individuals from a wide variety of backgrounds. The delivery of high-quality healthcare that is meaningful, acceptable, accessible, effective, and cost efficient requires a deeper understanding of the sociocultural background of patients, their families, and the environments in which they live. The Culture, Health, and Society LCT encourages students to reflect on their own cultural values, assumptions, and beliefs and to identify how those values can influence the provision of clinical care and the patient–doctor relationship.

Ethics and Humanities. Medical ethics seeks to teach a method of inquiry. In this innovative curriculum, students move from basic ethical principles to a critical thinking framework in order to apply their skills and knowledge to topics and cases relevant to the human body, systems-based, or clerkship curriculum.

Gender-Based Medicine. The Gender-Based Medicine LCT seeks to advance students' capacity to identify and address sex- and gender-based differences in healthcare needs. The curriculum also encourages students to become sensitive to diversity and cultural and social factors including gender and gender power relations that affect health and illness worldwide.

Geriatrics and Principles of Palliative Care. Almost one out of eight Americans is 65 years of age or older. This number will more than double during the next 30 years. The management of multiple chronic illnesses and geriatric syndromes requires a different approach than the traditional "curative" medical model. To ensure students have an appreciation for the nuances of caring for the aging population, the college has developed curricula that seek to improve students' sensitivity and knowledge regarding geriatric issues. The Principles of Palliative Care curriculum was designed to enhance students' skills and knowledge regarding the relief and prevention of suffering in patients with advanced or life-threatening illnesses.

Interprofessional Education (IPE). Interprofessional education (IPE) helps prepare health professions students to provide patient care in a collaborative team environment. Through interprofessional learning opportunities students from two or more professions learn with, from, and about each other to improve collaboration and quality of care. IPE is very important for the development of effective and efficiently functioning healthcare teams that are needed to deliver high-quality care in an increasingly complex healthcare environment.

Lifestyle Medicine. Lifestyle medicine plays a major role in healthcare today. The Lifestyle Medicine LCT has been integrated into the curriculum to train physicians who can effectively provide nutrition care for the prevention and management of chronic diseases.

Medical Informatics. In concert with the AAMC's Medical School Objectives Project, the Medical Informatics LCT has identified objectives and topics relevant to a practicing physician. The curriculum focuses on the skills and attributes that will advance students in their roles as researchers, clinicians, educators/communicators, managers, and lifelong learners.

Patient Safety. Patient safety has become a national topic since a 1999 Institute of Medicine report estimated that medical errors kill almost 100,000 people per year. Follow-up surveys of medical schools found that young doctors in training did not feel they received enough in-depth education in patient safety. In response to this issue, the World Health Organization developed a patient safety curriculum to be taught in medical schools. UCF College of Medicine was invited to become a pilot site for evaluation of the patient safety curriculum along with 10 medical schools in countries across the world.

Qualifying degree(s) for each discipline taught in the unit[3]

A terminal degree in the teaching discipline qualifies a faculty member to teach throughout the broad scope of the teaching discipline at the undergraduate and graduate levels.[4]

HUMAN BODY (HB) MODULES

HB-1 Molecules to Cells

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Biochemistry (Biological Chemistry, Medical Biochemistry, Nutrition)
- Biology (any one or more of Molecular; Cell or Cellular; and Developmental)
- Biomedical Sciences (Biological Sciences, Biomolecular Science, Molecular Medicine)
- Biophysics
- Cell Science
- Chemistry (Organic Chemistry)
- Genetics (Genetics subspecialty area, Molecular Genetics)
- Health Sciences, Life Sciences
- Pathology (Molecular and/or Cellular Pathology)
- Pharmacy

HB-2 Structure and Function

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Anatomy (Histology, Embryology)
- Cell Biology (Cell Science)
- Developmental Biology
- Health Sciences, Life Sciences, Biological Sciences
- Neurobiology (Neuroscience)
- Nutrition
- Pathology (Molecular and/or Cellular Pathology)
- Physiology
- Pharmacology (Pharmaceutical Sciences, Toxicology)

HB-3 Health and Disease

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Biochemistry (Biological Chemistry)
- Biology (any one or more of: Molecular; Cell or Cellular; and Developmental)
- Biomedical Sciences (Biomolecular Science)
- Cell Science, Health Sciences
- Genetics (Genetics subspecialty area, Molecular Genetics)
- Immunology
- Microbiology (Medical Microbiology, Bacteriology, Mycology, Virology)
- Pathology (Molecular and/or Cellular Pathology)
- Pharmacology (Pharmaceutical Sciences, Toxicology)

ORGAN SYSTEMS (S) MODULES

S-1 Hematology and Oncology

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Pathology
- Pharmacology (Pharmacy)

S-2 Endocrine, Reproductive, and Genitourinary System

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Pathology
- Pharmacology (Pharmacy)
- Physiology

S-3 GI/Hepatic and Renal System

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Nutrition
- Pathology
- Pharmacology (Pharmacy)
- Physiology

S-4 Cardiovascular and Pulmonary System

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Pathology
- Pharmacology (Pharmacy)
- Physiology

S-5 Skin and Musculoskeletal System

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Immunology
- Pharmacology (Pharmacy)
- Physiology

S-6 Neurologic Systems

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Anatomy
- Neurobiology (Neuroscience)
- Pharmacology (Pharmacy)
- Physiology

PSYCHOSOCIAL ISSUES IN HEALTHCARE (C) MODULE

C-1 Psychosocial Issues

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Pharmacology (Pharmacy)
- Physiology
- Psychology

Juris Doctor (JD)

PRACTICE OF MEDICINE / COMMUNITY OF PRACTICE (P) MODULES

P-1 Practice of Medicine

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Epidemiology
- Pharmacology (Pharmacy)
- Physiology
- Psychology
- Nursing

P-2 Practice of Medicine

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Pharmacology (Pharmacy)
- Physiology
- Psychology
- Nursing

FOCUSED INDIVIDUALIZED STUDY AND RESEARCH MODULES

I-1 Individual Research

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Anatomy
- Bacteriology
- Biochemistry (Biological Chemistry, Medical Biochemistry)
- Biology (any one or more of: Molecular; Cell or Cellular; and Developmental)
- Biomedical Sciences (Biological Sciences, Biomolecular Science, Molecular Medicine)
- Biophysics
- Cell Biology (Cell Science)
- Cell Science, Health Sciences
- Chemistry (Organic Chemistry)
- Epidemiology
- Genetics (Genetics subspecialty area, Molecular Genetics)
- Health Sciences, Life Sciences, Biological Sciences
- Immunology
- Microbiology (Medical Microbiology, Bacteriology, Mycology, Virology)
- Neurobiology (Neuroscience)
- Nutrition
- Pathology (Molecular and/or Cellular Pathology)

- Pharmacology (Pharmaceutical Sciences, Toxicology)
- Physiology

I-2 Individual Research

Doctor of Medicine (MD)
Doctorate (e.g., PhD) in any of the following areas:

- Anatomy
- Bacteriology
- Biochemistry (Biological Chemistry, Medical Biochemistry)
- Biology (any one or more of: Molecular; Cell or Cellular; and Developmental)
- Biomedical Sciences (Biological Sciences, Biomolecular Science, Molecular Medicine)
- Biophysics
- Cell Biology (Cell Science)
- Cell Science, Health Sciences
- Chemistry (Organic Chemistry)
- Epidemiology
- Genetics (Genetics subspecialty area, Molecular Genetics)
- Health Sciences, Life Sciences, Biological Sciences
- Immunology
- Microbiology (Medical Microbiology, Bacteriology, Mycology, Virology)
- Neurobiology (Neuroscience)
- Nutrition
- Pathology (Molecular and/or Cellular Pathology)
- Pharmacology (Pharmaceutical Sciences, Toxicology)
- Physiology

CLERKSHIP MODULES

Doctor of Medicine (MD) and board certified in core discipline (Family Medicine, Medicine, Obstetrics and Gynecology, Neurology, Pediatrics, Psychiatry, or Surgery)

Justification for use of faculty members with "other" teaching qualifications and additional information[5]

Normally, faculty teaching in the MD program will possess a terminal degree. However, in special situations a person lacking a terminal degree that has exceptional professional experience and expertise in a particular area may be asked to provide instruction in their area of expertise. In such instances, a compelling statement of the individual's relevant and demonstrated competencies and achievements will be provided and supported with appropriate documentation.

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1. The unit chair or director, in consultation with unit faculty members, is responsible for identifying and articulating commonly accepted good practices in each of the unit's teaching disciplines and for providing appropriate justification as needed. In the case of an emerging discipline for which common collegiate practice has not yet been established, a compelling case must be made, as necessary, to substantiate the claims presented.

2. Please provide a general description of the unit's course and program offerings at the undergraduate and graduate levels (e.g., degree and certificate programs, minors, unit contributions to interdisciplinary core courses). This section may also be used to provide other pertinent information about the unit and the discipline(s) it represents (e.g., discipline accreditation, faculty research emphases).

3. For each discipline taught in the unit, please list those degrees that are regarded by the respective disciplinary community as terminal degrees in the discipline and thus qualify a faculty member to teach throughout the broad scope of that discipline at the undergraduate and graduate levels. In most fields, a terminal degree is the commonly accepted highest degree in the given field of study. In such instances, the terminal degree is usually considered to be the academic (or research) doctorate (e.g., Doctor of Philosophy). However, some academic fields have, through custom,

recognized terminal degrees that are not doctorates (e.g., Master of Fine Arts). Note that terminal degrees in other disciplines may also be appropriate for teaching in the discipline, but such credentials should be listed as broadly or selectively related degrees, as appropriate.

4. A nonterminal master's degree in the teaching discipline qualifies a faculty member to teach throughout the broad scope of the teaching discipline at the undergraduate level but not at the graduate level.

5. Please use this section to provide justification that helps to make the case for special circumstances that apply to the unit, including the use of faculty members qualified to teach by "other" means. Typically, the statements provided in this section should be of a general nature and should not address specific individuals. (Justification for specific individuals is typically handled separately during the teaching certification process.) Please cite appropriate authorities as needed to justify the unit's practices (e.g., discipline accreditation guidelines, governmental regulations).

When a faculty member cannot be qualified to teach on the basis of academic credentials (i.e., degrees, coursework) alone, qualifications other than academic credentials (or combined with academic credentials) that are appropriate for teaching particular courses may be taken into consideration. Such consideration of other teaching qualifications in conjunction with or in lieu of academic credentials must be made on a case-by-case basis. These cases should be exceptional, and the evidence provided of other demonstrated competencies and achievements must be compelling. They should also show significant evidence of professional progress as related to the faculty member's teaching assignment.