Doctor of Medicine, M.D.

Requirements

The Doctor of Medicine is a four-year program that prepares students to practice primary care medicine and to pursue further education and training in specialized areas of medicine. The program admits 152 new students each year.

The M.D. curriculum is built on a triple-helix model whose three strands extend through all four years of medical school: the clinical and professional skills strand, the mechanisms of health and disease strand, and the medicine and society strand.

Clinical experiences begin during the first few weeks of medical school, and clinical clerkships start after just three semesters of preclinical instruction. By the end of the fifth semester, students have completed all of their core requirements and have the remaining three semesters to tailor their educational experience in preparation for their selected specialty.

Students complete in-depth clinical coursework and serve clinical clerkships primarily at University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and the Des Moines Area Medical Education Consortium. Students also may have opportunities to gain experience in private medical offices and community hospitals.

The M.D. program is a full-time, four-year program; thus, students are required to pay a minimum of eight semesters of full-time tuition. At the conclusion of medical school, students will match into a residency program and complete their training in a chosen specialty.

Requirements for Students Completing Phase II Core, 2021 Calendar Year

Preclinical Curriculum (Phase I)

The first three semesters of the M.D. program present an integrated core of sciences basic to the study of medicine. They also introduce students to the foundations of clinical practice.

Coursework includes human anatomy, foundations of cellular life, clinical and professional skills (a three-course series), medicine and society (a three-course series), and mechanisms of health and disease (a five-course series). Each of these courses is described below.

Some elective courses are available to students during the first and second years, normally for 1 or 2 s.h. of credit. Topics include areas not specifically covered in the regular curriculum and areas related to medical practice and the role of the physician. Courses vary from year to year, but typical subject areas are global health issues, U.S. health care systems, and community health outreach.

The M.D. program's preclinical curriculum requires the following coursework.

First Semester

ACB:8101 Medical Gross Human Anatomy: complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, and independent activities.

MED:8121 Clinical and Professional Skills I: introduction to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement of classroom experiences into the context of patient care through the Early Clinical Experiences (ECE) program; interactions with students from other health sciences colleges to explore the interprofessional approach to caring for patients.

MED:8122 Medicine and Society I: delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; students apply health and risk assessment to individual patients and to themselves.

MED:8123 Foundations of Cellular Life: genetics, embryology, molecular biology, biochemistry, cell biology and histology; molecular events required for cellular life; how cells grow and interact to form basic tissues of the human body; framework necessary for exploring the mechanisms of health and disease.

MED:8124 Mechanisms of Health and Disease I: normal and healthy processes within and among mechanisms of oxygenation, metabolism, and genetics/development.

Second Semester

MED:8131 Clinical and Professional Skills II: reinforcement of clinical reasoning concepts introduced in MED:8121 and introduction of additional concepts; application of concepts through interactions with standardized patients and through clinical visits; varied experiences help students gain a deeper appreciation for issues in biomedical ethics; strengths and barriers involved in providing comprehensive interdisciplinary patient care.

MED:8132 Medicine and Society II: knowledge and skills related to health promotion and disease prevention from a medicine and society perspective, including impact of behavior, environment, culture, and socioeconomics; identification of major public health problems associated with mechanisms of health and disease; focus on public health and epidemiology, with attention to screening, global health, and environmental hazards.

MED:8133 Mechanisms of Health and Disease II: normal and healthy processes within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8134 Mechanisms of Health and Disease III: abnormalities or disruptions leading to disease within and among mechanisms of oxygenation, metabolism, and genetics/development.

Third Semester

MED:8221 Clinical and Professional Skills III: advanced clinical reasoning skills gained through focused patient encounters and interactions with special patient populations; emphasis on students' ability to integrate and use concepts from the
M.D. curricular strands that are required for cost-conscious, patient-centered, interdisciplinary care.

MED:8222 Medicine and Society III: health services organization and delivery, with emphasis on community dimensions of medical practice and patient safety.

MED:8223 Mechanisms of Health and Disease IV: abnormalities or disruptions leading to disease within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8224 Mechanisms of Health and Disease Keystone: transition from classroom instruction in MED:8124, MED:8133, MED:8134, and MED:8223 to clinical practice; foundational information from those courses approached from the perspective of common clinic encounters; diagnostic and management decisions about common important clinical problems using the foundational knowledge gained from those courses.

Clinical Curriculum (Phase II and III)

Students complete one week of skills training in MED:8320 Transition to Clerkships prior to the start of clinical clerkships. The two-and-a-half year clinical component of the medical curriculum is comprised of supervised hands-on clinical training at the bedside on in-patient units, in outpatient clinics, and in communities throughout the state. In contrast to the preclinical semesters, the clinical years vary according to a student's individual needs. This period of training begins in January of the second year with 44 weeks of core clerkships (Phase II). Students then enter various pathways where they complete the minimum of 10 weeks of selectives, four weeks of emergency or critical medicine, one four-week subinternship, and 32 weeks of advanced electives (Phase III).

After completing the core clerkships, students must successfully complete Step 1 of the United States Medical Licensing Examination (USMLE) before they may be promoted to the pathways component of the curriculum. Students take Step 2 of the USMLE during their fourth year of the M.D. program, and must pass the exam in order to graduate.

Primary venues for clinical training of medical students include University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and the Des Moines Area Medical Education Consortium. Students also participate in the family practice preceptorship and the community-based primary care clerkship, which are off-campus rotations. Other courses also may be assigned to off-campus sites.

The M.D. program's clinical curriculum requires the following clerkships and electives.

Generalist Core (Phase II)

M.D. students complete the generalist core during the fourth and fifth semesters. It consists of the following 42-44 weeks of clerkships.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>FAM:8302</td>
<td>Family and Community Medicine (6 weeks)</td>
<td>6</td>
</tr>
<tr>
<td>IM:8302</td>
<td>Outpatient Internal Medicine (4 weeks)</td>
<td>4</td>
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</table>

Internal Medicine/Pediatrics Block

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>IM:8301</td>
<td>Inpatient Internal Medicine (6 weeks)</td>
<td>6</td>
</tr>
<tr>
<td>PEDS:8301</td>
<td>Clinical Pediatrics (6 weeks)</td>
<td>6</td>
</tr>
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Obstetrics and Gynecology/Surgery Block

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>OBG:8301</td>
<td>Clinical Obstetrics and Gynecology (6 weeks)</td>
<td>6</td>
</tr>
<tr>
<td>SURG:8301</td>
<td>Clinical Surgery (6 weeks)</td>
<td>6</td>
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</tbody>
</table>

Neurology/Psychiatry Block

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>NEUR:8301</td>
<td>Clinical Neurology (4 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>PSYC:8301</td>
<td>Clinical Psychiatry (4 weeks)</td>
<td>4</td>
</tr>
</tbody>
</table>

Selectives

M.D. students complete 10 weeks of selectives chosen from the following.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ANES:8301</td>
<td>Clinical Anesthesia (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>DERM:8301</td>
<td>Clinical Dermatology (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>OPHT:8301</td>
<td>Clinical Ophthalmology (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>ORTH:8301</td>
<td>Clinical Orthopedics (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>OTO:8301</td>
<td>Clinical Otolaryngology (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>RAD:8301</td>
<td>Clinical Radiology (2 weeks)</td>
<td>2</td>
</tr>
<tr>
<td>URO:8301</td>
<td>Clinical Urology (2 weeks)</td>
<td>2</td>
</tr>
</tbody>
</table>

Advanced Required Clerkships (Phase III)

M.D. students complete the following required clerkships and other work during the three advanced clinical-year semesters. In addition to the clerkships, students complete training modules in advanced clinical topics that include MED:8470 Self-Directed Learning in Advanced Clinical Topics. They also are required to complete the Advanced Objective Structured Clinical Examination (OSCE), administered by the college in a student's final semester.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td>Critical care medicine (4 weeks)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advanced inpatient subinternship (4 weeks)</td>
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</tr>
<tr>
<td></td>
<td>Advanced electives (total of 32 weeks)</td>
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</tr>
</tbody>
</table>

Requirements for Students Completing Phase II Core, Spring 2022

Preclinical Curriculum (Phase I)

The first three semesters of the M.D. program present an integrated core of sciences basic to the study of medicine. They also introduce students to the foundations of clinical practice.

Coursework includes human anatomy, foundations of cellular life, clinical and professional skills (a three-course series), medicine and society (a three-course series), and mechanisms of health and disease (a five-course series). Each of these courses is described below.

Some elective courses are available to students during the first and second years, normally for 1 or 2 s.h. of credit. Topics include areas not specifically covered in the regular curriculum and areas related to medical practice and the role of the physician. Courses vary from year to year, but typical subject areas are global health issues, U.S. health care systems, and community health outreach.
The M.D. program’s preclinical curriculum requires the following coursework.

**First Semester**

MED:8121 Clinical and Professional Skills I: introduction to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement of classroom experiences into the context of patient care through the Early Clinical Experiences (ECE) program; interactions with students from other health sciences colleges to explore the interprofessional approach to caring for patients.

MED:8122 Medicine and Society I: delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; students apply health and risk assessment to individual patients and to themselves.

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**Second Semester**

MED:8131 Clinical and Professional Skills II: reinforcement of clinical reasoning concepts introduced in MED:8121 and introduction of additional concepts; application of concepts through interactions with standardized patients and through clinical visits; varied experiences help students gain a deeper appreciation for issues in biomedical ethics; strengths and barriers involved in providing comprehensive interdisciplinary patient care.

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**Clinical Curriculum (Phase II and III)**

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After completing the core clerkships, students must successfully complete Step 1 of the United States Medical Licensing Examination (USMLE) before they may be promoted to the pathways component of the curriculum. Students take Step 2 of the USMLE during their fourth year of the M.D. program, and must pass both Step 2 exams in order to graduate.

Primary venues for clinical training of medical students include University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and the Des Moines Area Medical Education Consortium. Students also participate in the family and community medicine clerkship, which is an off-campus rotation. Other courses also may be assigned to off-campus sites.

The M.D. program's clinical curriculum requires the following clerkships and selectives.

**Generalist Core (Phase II)**

M.D. students complete the generalist core during the fourth and fifth semesters. It consists of the following 42-44 weeks of clerkships.

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<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>IM:8310</td>
<td>Internal Medicine (10 weeks)</td>
<td>10</td>
</tr>
<tr>
<td>FAM:8302</td>
<td>Family Medicine/Pediatrics</td>
<td>6</td>
</tr>
<tr>
<td>PEDS:8301</td>
<td>Clinical Pediatrics</td>
<td>6</td>
</tr>
</tbody>
</table>
OBG:8301 Clinical Obstetrics and Gynecology (6 weeks) 6
SURG:8301 Clinical Surgery (6 weeks) 6
Neurology/Psychiatry/Emergency Medicine Block
EM:8301 Core Emergency Medicine (2 weeks) 2
NEUR:8301 Clinical Neurology (4 weeks) 4
PSYC:8301 Clinical Psychiatry (4 weeks) 4
Selectives
M.D. students complete 10 weeks of selectives chosen from the following.
Code Title Hours
ANES:8301 Clinical Anesthesia (2 weeks) 2
DERM:8301 Clinical Dermatology (2 weeks) 2
OPHT:8301 Clinical Ophthalmology (2 weeks) 2
ORTH:8301 Clinical Orthopedics (2 weeks) 2
OTO:8301 Clinical Otolaryngology (2 weeks) 2
RAD:8301 Clinical Radiology (2 weeks) 2
URO:8301 Clinical Urology (2 weeks) 2
Advanced Required Clerkships (Phase III)
M.D. students complete the following required clerkships and other work during the three advanced clinical-year semesters. In addition to the clerkships, students complete training modules in advanced clinical topics that include MED:8470 Self-Directed Learning in Advanced Clinical Topics. They also are required to complete the Advanced Objective Structured Clinical Examination (OSCE), administered by the college in a student’s final semester.
Code Title Hours
Critical care medicine (4 weeks)
Advanced inpatient subinternship (4 weeks)
Advanced electives (total of 32 weeks)
Combined electives (total of 40 weeks)
Combined Programs
Students must be admitted to both of the individual degree programs before they may be admitted to a combined degree program. Those interested in the combined programs must make arrangements with the appropriate departments and with the Carver College of Medicine associate dean for student affairs and curriculum.
M.D./J.D.
The Carver College of Medicine and the College of Law offer the combined Doctor of Medicine/Juris Doctor program; see Juris Doctor, J.D. in the Catalog.
M.D./M.B.A. (Professional Program)
The College of Medicine collaborates with the Tippie College of Business to offer the combined Doctor of Medicine/Professional Master of Business Administration Program. For more information about the M.B.A., see the M.B.A. Professional Program in the Master of Business Administration, M.B.A. section of the Catalog.
M.D./M.P.H.
The College of Medicine collaborates with the College of Public Health to offer the combined Doctor of Medicine/Master of Public Health program; see the Master of Public Health, M.P.H. in the Catalog.
M.D./Ph.D. (Medical Scientist Training Program)
The Carver College of Medicine offers a combined M.D./Ph.D. program for students who are interested in a career that combines clinical and academic medicine with basic and clinical research; see the Medical Scientist Training Program in the Catalog.
Admission
The Carver College of Medicine participates in the American Medical College Application Service (AMCAS), a nonprofit centralized application processing service for applicants to U.S. medical schools. AMCAS applications are available for completion in May of the year preceding the beginning of the class for which application is being made. Prospective students are urged to apply as early as possible. The deadline for AMCAS submission is November 1.
Secondary applications are forwarded to applicants whose AMCAS applications pass a review conducted by the college.
Admitted applicants must have an official transcript from each college they have attended sent to the University’s Office of Admissions.
Technical Standards for Admission and Retention
The College of Medicine seeks candidates who will be able to best serve the needs of society and strives to graduate skilled and effective physicians. To achieve this goal, the following principles and technical standards will be applied to candidates for admission and continuing students. Review the current Technical Standards on the Carver College of Medicine Admissions website.
Admission Requirements
Applicants for admission to the Carver College of Medicine must have a bachelor’s degree, or they must be enrolled in a bachelor’s degree program with the expectation of receiving their degree before enrolling in the Carver College of Medicine. Applicants should refer to the Carver College of Medicine Admissions website for current admission requirements.
All students who enter the Carver College of Medicine are required to comply with the pre-entrance and annual health screening program developed by the University of Iowa Student Health in cooperation with University of Iowa Hospitals & Clinics; see Student Requirements and Forms on the Student Health website.
All registered Carver College of Medicine students are required to maintain health insurance (or an equivalent care plan) that satisfies minimum standards of coverage. Insurance coverage must be maintained continuously throughout each year of attendance at the University.
Financial Support

The Carver College of Medicine’s philosophy is that no student should be denied a medical education due to a lack of financial resources. The college’s financial services staff actively seeks sources of aid so that every student interested in a medical education will be able to finance that education.

Financial assistance is provided by the Carver College of Medicine primarily on the basis of demonstrated financial need. Although a limited number of collegiate or institutional grants are available for the most economically disadvantaged students, most aid is in the form of loans. Examples of federal loan programs are the Federal Direct Unsubsidized Stafford/Ford Student Loan, the Federal Direct Grad PLUS loan, and the Primary Care Loan (PCL). Students also may qualify for collegiate loans or private loans to supplement their financial aid package.

In addition, the college supports scholarship and loan programs through permanent endowments and/or contributions from alumni and friends of the Carver College of Medicine. These funds are administered by the college’s financial services staff and are awarded as a part of a student’s total financial aid package. Funds to support short-term emergency loans are available for students with immediate financial need.

A small number of Dean’s Scholarships are awarded by the college’s admissions office to highly qualified candidates on the basis of their academic excellence, leadership abilities, and their potential to enrich the college. Dean’s Scholarships are included in the recipient’s overall financial aid package. About 15 percent of students enrolled in each class receive some level of Dean’s Scholarship.

The Carver College of Medicine has a fully integrated Financial Literacy Program, CCOMmon Cents, which provides medical students the knowledge, tools, and resources to better understand the financial aid process, to manage their student loans more effectively, to make better informed decisions, and to encourage students to minimize their educational debt whenever possible. This program also strives to help students reach their personal financial goals while pursuing their medical education.

To learn more about financial aid, contact the Carver College of Medicine Financial Services office.

Career Advancement

An interest in science, the healing arts, helping people, and medical research can lead to a great number of satisfying careers. For information about career options in health care, review the Road to Becoming a Physician on the College of Medicine website and the Occupational Outlook Handbook on the United States Department of Labor Bureau of Labor Statistics website.