Doctor of Medicine

Admissions

Admission Requirements for the Study of Medicine

Entrance requirements to the School of Medicine include the following:

1. Evidence of superior intellectual ability and scholastic achievement;
2. Completion of at least 90 semester hours of college courses in an approved college or university;
3. Completion of the Medical College Admission Test of the Association of American Medical Colleges; and
4. Evidence of character and integrity, a caring and compassionate attitude, scientific and humanitarian interests, effective communication skills, and motivation suitable for a career in medicine.

Chemistry, physics and mathematics provide the tools for modern biology, for medicine and for the biological basis of patient care. Thus, a firm grounding in these subjects is essential for the study of medical sciences. Entering students are expected to have accomplished at least the equivalent of one-year courses at the undergraduate level in physics and biology; mathematics through calculus; and chemistry, including one year of general or inorganic chemistry and one year of organic chemistry. Course work in biochemistry is encouraged although not required. In addition, one semester of biochemistry can be substituted for one semester of organic chemistry. Similarly, one semester of statistics can be substituted for one semester of calculus. In selected instances, one or more of these prerequisites may be waived by the Committee on Admissions, but applicants are strongly advised to pursue their interests in these and other areas of science.

A major goal of undergraduate college work should be the development of the intellectual talents of the individual. This often involves the in-depth pursuit of some area of knowledge, whether in the humanities, the social sciences or the natural sciences. At the same time, a diversity of background is encouraged in order to provide a necessary foundation for the development of cultural awareness, sensitivity and competence. Specific courses (other than the few in the natural sciences) are not prerequisites, because a great variety of courses and life experiences may prepare students for the many roles they may play in their medical careers.

Technical Standards Statement

Graduates of Washington University with a Doctor of Medicine degree are expected to have broad competence in the basic skills that underlie the general practice of medicine and surgery. All graduates must be able to independently take a history, examine a person, and synthesize the findings into a diagnosis and plan of evaluation and treatment. Thus, medical students must possess the requisite sensory, motor, communicative and cognitive capabilities to accomplish these requirements in a reliable manner in order to be competent and safe medical practitioners.

Application Procedure

General information for prospective medical students and instructions about how to apply can be found on the Medical Student Admissions website (http://mdadmissions.wustl.edu/).

Washington University School of Medicine participates in the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges. AMCAS provides a centralized system for applying to any participating medical school with only one application and one set of official transcripts of academic work.

The AMCAS Application for Admission (https://students-residents.aamc.org/applying-medical-school/applying-medical-school-process/applying-medical-school-amcas/), common to all participating medical schools, is available online. Applicants are urged to file their applications as early as possible.

Applicants to the first-year class must submit their AMCAS application no later than December 1 of the year prior to that in which they want to matriculate. In addition, applicants must complete a supplemental application (https://mdapply.wustl.edu/), submit letters of recommendation, and pay a nonrefundable application fee of $100. These materials must be received no later than December 15. The Committee on Admissions will only evaluate an application when it is complete.

Selected applicants are invited for a personal interview as well as a tour of the School of Medicine and the Washington University Medical Center. This visit provides extensive opportunities for the applicant to meet and talk with students and faculty members.

If an applicant is planning a trip to the St. Louis area, it is appropriate for them to contact us by email (mdadmissions@wustl.edu) to find out if an interview has been authorized. The inquiry should be submitted at least three weeks in advance of the anticipated travel. The Office of Admissions is open weekdays from 8:00 a.m. to 5 p.m. Central Standard Time.
Admission decisions are made by the Committee on Admissions on a rolling schedule beginning in early November. Applicants are notified as soon as a final decision has been made on their application. By April 1, every applicant should be notified whether they are accepted, on the waiting list or not accepted.

After the applicant has been accepted, matriculation is contingent upon sustained superior academic performance as well as continued ethical, honest and mature deportment. Accepted applicants must report to the Registrar of the School of Medicine all institutional judicial or academic sanctions and/or legal actions in which they have been a party prior to matriculation at the School of Medicine. Accepted applicants must report all institutional judicial and academic charges and/or legal charges brought against them before matriculation at the School of Medicine where such charges could result in sanctions. Concealing or failing to report such sanctions and/or charges promptly and, more generally, failure to maintain high standards of moral and ethical behavior may result in rescission of acceptance, dismissal from the School of Medicine, or revocation of the Doctor of Medicine degree.

**Merit-Based Scholarships**

Merit-based scholarships are awarded in various amounts as funds allow. Recipients are selected based on their personal and academic accomplishments and their perceived potential to lead and contribute to the profession. There are multiple full and partial awards available. All accepted students are considered for merit-based scholarships without additional applications. Please consult the Financial Information section (http://bulletin.wustl.edu/medicine/financial/#md) of this Bulletin for further details.

**Acceptance Protocols**

As a participant in the American Medical College Application Service (AMCAS), the Washington University School of Medicine (WUSM) abides by the Application and Acceptance Protocols (https://students-residents.aamc.org/applying-medical-school/article/application-and-acceptance-protocols-applicants/) established by the AAMC and encourages students to use the accompanying AMCAS Choose Your Medical School Tool (https://students-residents.aamc.org/applying-medical-school/article/amcas-choosing-your-medical-school-tool/). Applicants holding at least one acceptance from any medical school will have the option to “Plan to Enroll” in mid-February.

Per WUSM Admissions policy, applicants who have been offered admission to WUSM and who intend to matriculate at WUSM should indicate that they “Plan to Enroll” through the Choose Your Medical School Tool as soon as possible but by no later than April 30 of the year in which they will matriculate. WUSM reserves the right to rescind offers of acceptance if an applicant has not selected “Plan to Enroll” by April 30. After April 30, although applicants will maintain their “Plan to Enroll” status at WUSM, they may continue to hold positions on the waitlists of other schools.

Beginning April 30, accepted applicants have the option to “Commit to Enroll” at WUSM. When an applicant selects “Commit to Enroll” at WUSM, they should notify all other institutions where they hold an acceptance or position on the waitlist that they wish to withdraw their acceptance or position from the waitlist of that school. WUSM reserves the right to rescind an offer of admission to any applicant still holding an active acceptance at another institution while having a “Commit to Enroll” status with WUSM. WUSM reserves the right to rescind offers of admission from any applicant still holding a WUSM acceptance while indicating that they either “Plan to Enroll” or “Commit to Enroll” at another institution after April 30.

For applicants accepted after April 30, the timeline for selecting “Plan to Enroll” will be specified by the Associate Dean for Admissions.

All MD applicants planning to matriculate at WUSM should select the “Commit to Enroll” option no later than one week before the first day of orientation.

Should an applicant have an extenuating circumstance preventing compliance with this policy, it is the applicant’s responsibility to notify the WUSM Admissions Office and seek an extension or exception.

**Background Checks and Screening for Controlled Substances**

Students entering the School of Medicine and who will have contact with patients are required to undergo criminal background checks and screening for controlled substances (e.g., THC/cannabis, cocaine, opiates, amphetamines, phencyclidine) to qualify for participation in patient care activities at WUSM-affiliated facilities. Drug screening usually will be conducted during student orientation prior to the start of classes. Incoming prematriculant students and visiting students will be disqualified to study at the School of Medicine if they do not consent to background checks, if they have significant positive findings on the background checks, or if they have illicit substances detected on drug screening without a bona fide medical indication. Disqualified prematriculant students and disqualified visiting students will be precluded from matriculation and will not be registered as students in the School of Medicine.
Important Dates

- AMCAS application (https://students-residents.aamc.org/applying-medical-school/applying-medical-school-process/applying-medical-school-amcas/) deadline: December 1, 2020
- WUSM supplemental application (https://mdapply.wustl.edu/) deadline: December 15, 2020
- “Plan to Enroll” required: April 30, 2021

Visit the Important Dates page (https://mdadmissions.wustl.edu/how-to-apply/important-dates/) of the Admissions website for a complete list of dates and deadlines.

Third-Year Class Transfer Program

Each year, Washington University School of Medicine accepts a limited number of transfer students into its third-year class, depending on the availability of positions. Transfer applications are accepted from well-qualified second-year students who are enrolled in good standing and eligible to continue in their Liaison Committee on Medical Education–accredited U.S. medical schools. Applicants must also have a compelling personal reason for requesting a transfer, and they must have the full approval of the dean of their current school. Accepted students are required to successfully complete the United States Medical Licensing Examination (USMLE) Step 1 examination.

Transfer application forms for admittance into the third-year class are available after October 1 for the following academic year. The deadline for the submission of these applications is March 31. Those applicants selected for an interview will be invited to visit the Washington University Medical Center. Applicants will be notified of the decision of the Committee on Admissions by May 15 or when a position becomes available.

Inquiries should be directed here:
Third-Year Class Transfer Program
Washington University School of Medicine
Campus Box 8077
660 S. Euclid Ave.
St. Louis, MO 63110-1093
Phone: 314-362-6844
Fax: 314-362-4658
Email: mdadmissions@wustl.edu

Visit the Medical Student Admissions website (http://mdadmissions.wustl.edu/) for full admissions information and to check the status of an application.

Curriculum

By conferring the MD degree, the university certifies that the student is competent to undertake a career as a doctor of medicine. It certifies further that, in addition to medical knowledge and skills, the graduate possesses qualities of personality — compassion, emotional stability and a responsible attitude — essential to an effective professional life.

For Students Entering the MD Program in July 2020 or After:

The Gateway Curriculum ensures that students are not only exceptional physicians but that they are also prepared to lead the transformational changes needed to improve the future of health care delivery and the understanding of health and social determinants of health. The curriculum will include three phases.

Phase 1

Phase 1 will consist of 61 total weeks of curricular time: 48 of these will involve Integrated Foundational Modules, nine will be spent in Clinical Immersions, and four will be made up of the EXPLORE Immersion.

Specifically regarding the foundational sciences content, what is depicted here is intended to provide a reasonable approximation of how the content could be disbursed across curricular units and to provide a general indication of relative amounts of coverage time allotted to content areas. Modules will include the following:

- M81 500 Molecules to Society
- M81 505 Defense and Response to Injury
- M81 510 Circulation and Breathing
- M81 530 Ins and Outs
- M81 xxx Metabolism and Reproduction
- M81 xxx Scaffolding and Movement
- M81 xxx Brain and Behavior
- M81 xxx Phase 1 Capstone

The Clinical Immersion time will contain clinical experiences that are authentic, varied in content, and appropriate for the students’ level of abilities. Every student will have an immersion in each of the following areas: Inpatient, Ambulatory, and Procedural. There will be substantial emphasis on professional identity formation and the social, behavioral, and health systems sciences. Courses in the Immersions will include the following:

- M81 515 Clinical Immersion: Ambulatory/ED
- M81 520 Clinical Immersion: Inpatient
- M81 525 Clinical Immersion: Procedural

The EXPLORE Immersion element of the curriculum will focus on four key areas: research, education, advocacy/global health, and innovation. Students will take the module M81 535 Explore Immersion.
Phase 2

Phase 2 will include 12 months of clinical clerkship experiences in the content areas of Internal Medicine, Neurology, Obstetrics & Gynecology, Pediatrics, Psychiatry, and Surgery. Each clerkship will also include designated time to provide additional foundational science content specific to the clerkship.

Phase 3

Phase 3 will consist of 64 weeks total. Students will engage in 36 weeks of required elements that will include four weeks of Internal Medicine Subinternship, 16 weeks of Advanced Clinical Rotations (ACRs), 12 weeks of required Keystone Integrated Science Courses (KISCs), and four weeks of Capstone. In addition, students will have the opportunity to take 36 weeks of electives (clinical, research, other non-clinical) inclusive of the following:

- Up to eight credit-bearing weeks of USMLE study time
- Six weeks of School of Medicine holiday time
- Up to 4 weeks of unscheduled (no credit) time, not inclusive of holiday time

There is no limit on the amount of elective time that can be dedicated to research activities (excepting MSTP students who have completed their PhD training).

For Students Entering the MD Program Prior to July 2020:

The curriculum includes a core experience based upon a sequence of courses that introduces students to the many domains and disciplines of medicine. The principles, methods of investigation, problems and opportunities in each of the major disciplines of medical science and medical practice are presented in such a way as to help students select the career best suited to their abilities and goals. Throughout all four years of the curriculum, key topics known as Threads are woven throughout the learning experience, linking clinical and course work and enhancing the learning experience.

The preclinical curriculum provides a science and investigative foundation for future clinical practice. First-year and second-year course work combines basic science taught via a variety of didactic means, including lectures, small groups, simulations and case-based learning. It also includes a Practice of Medicine course that uses regular patient interactions and integrative cases to teach students to skillfully interview and examine patients while integrating current health disparities and issues in the present global spectrum.

In addition, students have the opportunity during their first year to complete four 10-hour selective courses in the humanities, the basic sciences and various clinical areas, which provides enrichment and in-depth focus on areas beyond the core curriculum. The preclinical curriculum is pass/fail.

The overall goal of the third year is the implementation of the fundamental interactive clinical skills necessary for the practice of medicine at the highest possible level of excellence. Students achieve this goal by participating in intensive, closely supervised training experiences in the core clinical clerkships, which involve inpatient and ambulatory settings and interactions with patients who present a spectrum of emergent, urgent, routine and chronic clinical problems. Through these experiences, students exhibit growth and maturation in their abilities to take medical histories, perform complete physical examinations, synthesize findings into a diagnosis, formulate treatment plans, and document and present information in a concise, logical and organized fashion.

During the final year (https://md.wustl.edu/academics/curriculum/first-year/selectives-requirements/) of the medical school curriculum, the required elective program helps students to decide where their major interests lie. It also enables them to benefit from the wide range of specialized knowledge and skills found in the faculty, and it lays the foundation for lifelong learning and the application of principles. The elective program permits students to select, according to their desires, the areas that they wish to explore or to study in depth. The fourth year is also offers students the opportunity to synthesize the learning from the third year in preparation for clinical residency. Toward this end, students are required to complete a Capstone course prior to graduation.

Washington University School of Medicine Medical Student Competency-Based Learning Objectives

The educational program is designed to ensure that each student will demonstrate the following:

**Foundational Knowledge for Practice**

1. Demonstrate knowledge of normal human structure and function at the molecular, genetic, cellular, tissue, organ-system and whole-body level.
2. Demonstrate knowledge of the basic mechanisms involved in the pathogenesis of common human diseases and their influence on clinical presentation and therapy.
3. Demonstrate knowledge of the epidemiology of common and clinically significant diseases.
4. Demonstrate basic knowledge of the impact of ethnicity, culture, socioeconomic status, patient and provider biases, and other social factors on health and disease.
5. Demonstrate basic knowledge of the ethical principles and professional values that underpin the medical profession.
6. Demonstrate basic knowledge of the common scientific methods used to study health and disease.
7. Demonstrate basic knowledge of the methods and principles used for improving the quality, safety and costs of health care delivery.

**Patient Care**
1. Obtain appropriate medical histories that include the psychosocial and behavioral factors that influence health.
2. Perform accurate physical examinations.
3. Discuss the indications, risks and benefits of common medical procedures; demonstrate proficiency in performing the required procedures of the Washington University School of Medicine graduate.
4. Formulate a prioritized differential diagnosis for the patient’s presenting symptoms, discuss expected physical examination findings based on the differential, and identify the diagnostic testing required.
5. Interpret common physical examination, laboratory and radiographic studies to inform the differential diagnosis and treatment plan.
6. Develop and carry out, with supervision, appropriate individualized diagnostic and treatment plans for patients across the broad spectrum of acute and chronic conditions.
7. Assess individual patient risk factors for common clinical conditions.
8. Educate patients and families about strategies to reduce risk and promote health.

**Interpersonal and Communication Skills**
1. Demonstrate respectful and effective verbal and nonverbal interpersonal and communication skills with patients, families, colleagues and all members of the health care team.
2. Discuss diagnostic and treatment options in a manner that will facilitate the participation of patients and their families in shared decision making.

**Professionalism**
1. Maintain a professionally appropriate demeanor.
2. Exhibit high standards of professional integrity.
3. Demonstrate an awareness of potential conflicts of interest.

5. Act in the patient’s best interest and serve as a patient advocate.
6. Recognize, monitor and address psychological and physical factors in oneself that may affect professional performance.

**Systems-Based Practice**
1. Work collaboratively and effectively in interprofessional teams.
2. Recognize the roles of various members of the interprofessional health care team and the scope of their practice.
3. Demonstrate the ability and willingness to adapt to various health care delivery settings (e.g., inpatient, ambulatory, operating room, labor and delivery, emergency department).
4. Recognize barriers to and facilitators of safe, high-quality patient care.
5. Describe individual, team and system challenges that may contribute to medical errors; demonstrate the ability to identify medical errors when they occur.

**Practice-Based Learning and Improvement**
1. Demonstrate the skills needed for lifelong learning, including the ability to identify and address personal strengths and weaknesses to incorporate formative feedback and to self-assess knowledge and performance to develop a self-improvement plan.
2. Apply an evidence-based approach to medical practice through selecting, appraising and utilizing evidence from scientific studies related to clinical questions and patients’ health problems.

**Contact Information**
For additional information or specifics about the MD curriculum, please use the following contact information:

Washington University School of Medicine
Office of Medical Student Education
Bernard Becker Medical Library, Room 301
CB 8214
660 S. Euclid Ave.
St. Louis, MO 63110
Hours: 8:30 a.m. to 5:00 p.m., Monday through Friday
Phone: 314-362-7122
MD Program Website (https://md.wustl.edu/)
Core Courses

Research

Students pursuing the Doctor of Medicine degree may receive elective credit for research projects completed during their fourth year. For additional information about the enrollment process and to learn more about research elective opportunities, please email the Electives Office (wusmelectives@wustl.edu).

Research opportunities are not mandatory, but the majority of MD students participate in some form of research during their educational career at Washington University School of Medicine. Our Medical Student Research Program provides a wide array of research opportunities to complement different student interests and to suit various career paths. For more information about these research opportunities and the application process, please reference the Office of Medical Student Research website (https://mdstudentresearch.wustl.edu/).

Faculty

2020-21 Course & Clerkship Directors

First Year

Human Body: Anatomy, Embryology, Imaging
Kari Allen, PhD
Amy Bauernfeind, PhD

Histology and Cell Biology
Paul Bridgman, PhD

Molecular Foundations of Medicine
Linda Pike, PhD

Physiology
Robert Mercer, PhD
Stephen Gregory, MD
Lai Kuan Dionne, PhD

Immunology
Brian Edelson, MD, PhD

Medical Genetics
Sabrina Nunez, PhD

Microbes and Pathogenesis
Henry Huang, PhD
Scott Hultgren, PhD

Neural Sciences
Krikor Dikranian, MD, PhD
Timothy Holy, PhD

Principles of Pharmacology
Simon Haroutounian, PhD

Practice of Medicine I
Timothy Yau, MD

First-Year Selectives

Faculty members from many departments and divisions at Washington University School of Medicine offer first-year selective course options focused on basic science, clinical experience and the humanities.

Second Year

Clinical Topics in Otolaryngology
Joseph Bradley, MD

Endocrinology and Metabolism
Amy Riek, MD
Marina Litvin, MD

Cardiovascular Disease
Dana Abendschein, PhD
Justin Sadhu, MD, MPH

Pulmonary Disease
Adrian Shifrin, PhD
Jeffrey Atkinson, MD

Renal and Genitourinary Diseases
Steven Cheng, MD

Dermatology
David Sheinbein, MD
Heather Jones, MD

Gastroenterology and Liver Disease/Nutrition
Sandeep Tripathy, MD, PhD

Obstetrics and Gynecology
Kenan Omurtag, MD

Diseases of the Nervous System
Allyson Zazulia, MD

Diseases of the Nervous System: Psychiatry
Marcie Garland, MD

Infectious Diseases
Nigar Kirmani, MD
Steven Lawrence, MD

Rheumatology
Lisa Zickuhr, MD

Hematology and Oncology
Meagan Jacoby, MD, PhD
Eric Knoche, MD

Pediatrics
Amanda Emke, MD
Ericka Hayes, MD

Pathology
Erica Crouch, MD, PhD

Practice of Medicine II
Megan Wren, MD
Third Year

Integrated Surgical Disciplines Clerkship
Michael Awad, MD, PhD

Medicine Clerkship
Gerome Escota, MD

Neurology Clerkship
Robert Naismith, MD

Obstetrics and Gynecology Clerkship
Stewart Massad, MD
Tammy Sonn, MD

Pediatrics Clerkship
Laura Hall, MD
Colleen Wallace, MD

Psychiatry Clerkship
Brendan O’Connor, MD

Practice of Medicine III
Timothy Yau, MD

Fourth Year

Capstone
Tosin Adeyanju, MD
Michael DeVita, MD
Holly Steiner, MD
Melissa Stewart, MD

Fourth-Year Electives
Faculty members within all departments and divisions at Washington University School of Medicine offer a vast selection of clinical elective rotations and independent study opportunities for students in their final year of the MD program.