

MEDICINE

The School of Medicine seeks to attract students who are passionate about scholarship and wish to improve the health of the world's people through research, innovation, and leadership.

Mission of the Degree Programs in Medicine

The mission of the degree programs in Medicine is to educate and inspire leaders in medicine and science who will improve human health through discovery, innovation, scholarship, education, and the delivery of outstanding patient-centered care.

Stanford is committed to representing the diversity of the U.S. and California populations by seeking a diverse body of students who are interested in the intellectual substance of medicine and committed to advancing the field of health care, broadly defined. Provided an applicant to the school has completed basic courses in physics, chemistry, and biology, the choice of an undergraduate major may reflect other interests, including the arts and humanities. Course work in advanced biology such as biochemistry, molecular biology, or genetics and the behavioral sciences is recommended because of their importance in understanding health care. Breadth of interests and depth of experiences play an important role in the selection of students from among those applicants having superior academic records.

Learning Outcomes

The following competencies serve as a guide for curriculum development and evaluation of the success of the training program and its graduates.

For additional information on the associated educational objectives please refer to the MD Program Handbook and Policy Manual Section 2.1 Competencies and Objectives for Medical Student Education (<http://med.stanford.edu/md/mdhandbook/section-2-general-standards/2-1-competencies-and-objectives-for-medical-student-education.html>).

1. *Patient Care*: Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health
2. *Knowledge for Practice*: Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care
3. *Practice-Based Learning and Improvement*: Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning
4. *Interpersonal and Communication Skills*: Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals
5. *Professionalism*: Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles
6. *Systems-Based Practice*: Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
7. *Interprofessional Collaboration*: Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care
8. *Personal and Professional Development*: Demonstrate the qualities required to sustain lifelong personal and professional growth
9. *Discovery*: Explore scientific discovery and self-discovery

Degree Programs in Medicine

The School of Medicine offers a professional degree in Medicine (MD), a Masters in Medicine (MSM), a Masters in Medicine in Biomedical Investigation, and oversees a dual-degree Medical Scientist Training Program (MD-PhD). Additional School of Medicine graduate degree programs are available on the School of Medicine Education (<http://med.stanford.edu/education.html>) website.

The Master of Science in Medicine (<http://msm.stanford.edu/>) program admits current Stanford Ph.D. students who have a commitment to translational research, but are not interested in becoming clinicians. The goal of the program is to train researchers in human biology and disease to be better equipped to translate new scientific discoveries into useful medical advances. Students offered admission into any Ph.D. program at Stanford may apply for admission to the master's program.

The Master of Science in Medicine in Biomedical Investigation (<http://med.stanford.edu/md/discovery-curriculum/BergScholarsProgram.html>) program admits current Stanford M.D. students who have a commitment to becoming physician-scientists. A major goal of the program is to address decreasing numbers of physician-scientists by shortening the training period without compromising quality of research – focusing instead on individualized career development of M.D.-only Physician-Scientists by placing them in outstanding research groups led by experienced faculty.

The Doctor of Medicine (M.D.) (<http://med.stanford.edu/md/discovery-curriculum.html>) program provides education in biomedical and clinical sciences along with study and independent research through scholarly concentrations. Emphasis is placed on interdisciplinary learning, with streamlined content, interactive approaches, and melding of basic science and clinical instruction across the curriculum. Blocks of unscheduled time allow for individual or group study, participation in elective courses, research, and reflection. The flexible Discovery Curriculum supports student's scientific discovery and self-discovery by offering multiple learning pathways at a more individualized pace and opportunities for pursuing a second degree, such as an M.P.H., M.B.A., Master's of Science in Epidemiology or Health Services Research, a Ph.D., or participating in longitudinal and global health research experiences.

The Medical Scientist Training Program (MSTP) (<http://med.stanford.edu/mstp.html>) M.D.-Ph.D. program provides a select group of medical students with an opportunity to pursue a training program designed to equip them for careers in academic investigative medicine. Individualization of the curricular and research programs of each trainee is the hallmark of the Program. Training for a combined MD-PhD includes the same content encountered by students who pursue each degree separately, but the total time of training should be less than the sum of the time normally taken for each degree. To this end, students must plan their training carefully and commit to a rigorous and intensive period of study. The flexible curriculum at Stanford Medical School allows each student to satisfy the requirements for the MD degree and to pursue an independent research program.

In addition to a variety of other dual degree opportunities, Stanford also collaborates with the University of California, Berkeley, to offer students opportunities for M.D./M.P.H. training. Details about these programs may be found at Stanford's Dual Degree and Multi-Degree Programs web site.

The M.D. degree requires 12 quarters of registration at full Med-M.D. tuition; the joint M.D./Ph.D. degree requires 15 quarters. Completion of the M.D. degree must be achieved within six years, unless a petition is granted to extend this time frame. For further details on the M.D. degree, including admission requirements, see the Stanford M.D. Program (<http://med.stanford.edu/md.html>) website.

Fellowships and Assistantships

Teaching Assistantships

The Office of Medical Education manages the Teaching Assistantships for the required M.D. courses. TAs provide medical students with an opportunity to develop teaching skills and enhance understanding of specific areas of the M.D. curriculum through teaching. Additionally, the work done by TAs enriches the overall curriculum and is an invaluable resource to the school.

In selecting TAs, all course directors consider each applicant's expertise in the subject matter, prior teaching experience, academic performance, and overall enthusiasm and participation throughout the course. Past performance in the course is a factor in selecting most TAs. Please note that some course directors may decide to interview potential candidates while others may not; the interview process varies from course to course. Some course directors may also require their TAs to participate in additional training; that will be noted in this document. TAs are expected to be and remain in good academic standing. However, all first-time TAs in the M.D. program are required to attend the training hosted by the Office of Medical Education. This training is mandatory and cannot be made up. Students may be asked to re-take this training if they have not taken it within the last 3 academic years.

Medical Scholars Research Program

Since 1980, the Stanford Medical Scholars Research Program has supported medical student research, both locally and off-site. Students carry out research in an academic setting under the direction of faculty members here at the medical school, hospital and clinics, and throughout the University. The fellowships provide funding and units as Medical Scholars Research 370.

M.D. students enrolled at Stanford are eligible.

M.D. students who obtained a Ph.D. prior to matriculation may apply for a fellowship only for research that has focus substantially different from that of their prior doctoral studies.

Students who are pursuing a dual degree (e.g., M.D./M.B.A.) are not eligible when they 'step out' to pursue the dual degree. Stepping out means that they are no longer paying tuition under the School of Medicine for that period of time, and any Financial Aid support is handled through the other degree program. When you 'step back in' to the M.D. program, you resume eligibility for MedScholars.

Master of Science in Medicine

The University's basic requirements for the M.S. degree are discussed in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/>)" section of this bulletin.

Overview

The Master of Science in Medicine (MSM) program is a master degree program that provides Ph.D. candidates exposure to clinical medicine with a view to fostering translational research. The goal of the MSM program is to train a new generation of Ph.D. students about human biology and disease, and thus better prepare them to translate new scientific discoveries into useful medical advances.

The MSM program admits an elite group of highly talented people who have a serious commitment to translational research but are not interested in becoming clinicians. Students admitted to any of the Ph.D. programs offered at Stanford have the opportunity to apply for MSM admission on a competitive basis.

Funding for each student during the first year of the program is completely provided by scholarship support from the MSM program.

Beginning in the second year, financial support is provided by each student's home Ph.D. program.

Degree Requirements

The Department of Medicine requires a minimum of 79 units for the master's degree to be taken in residence at Stanford. A Master's Program Proposal (<https://stanford.box.com/progpropma/>) form should be filled out, signed by the student's academic adviser, and submitted to the department's student services manager by the end of the student's first quarter of study. Final revisions to the master's program proposal must be submitted no later than one academic quarter prior to the quarter of expected degree conferral.

The program will extend the total training time by one-year beyond the usual length of Ph.D. training. During the program's first two years MSM participants will take basic biomedical science courses with the School of Medicine's MD students. This course schedule allows MSM students to concurrently undertake some Ph.D. course requirements and lab rotations. By early in the second program year, students will choose labs for thesis research and elect clinical mentors. The Master of Science in Medicine degree will be conferred upon successful completion of the required coursework and clinical experience.

Course Requirements

The basic medical science courses required by the MSM program are summarized below. This is an intensive sequence, but can also be flexible, depending on the student, and the student's background, Ph.D. program requirements, and interests.

In some cases, there is overlap between MSM courses and courses required for Ph.D. degree progress. Ph.D. students may be able to substitute courses required by their Ph.D. programs. For example, while most M.D. students take GENE 202, most Ph.D. students prefer to take GENE 205 which is a more advanced course and may satisfy a Ph.D. course requirement.

All MSM courses are taken Pass/Fail with the exception of courses required for the student's Ph.D. degree which must be taken for a letter grade. A more detailed description of each of the courses below can be found on ExploreCourses (<https://explorecourses.stanford.edu/>).

First Year	Units			
	Autumn	Winter	Spring	
Clinical Anatomy (SURG 203)		11		
Molecular Foundations of Medicine (BIOC 205)		4		
Applied Biochemistry (BIOC 200)		2		
Human Genetics (GENE 202)		4		
Embryology (SURG 201)		1		
Histology (INDE 218)		1		
Basic Cardiac Life Support for Healthcare Professionals (EMED 201)		1		
Microbiology and Infectious Diseases I (INDE 263)			3	
Immunology in Health and Disease (IMMUNOL 205)			4	
The Nervous System (NBI 206)			6	
Cells and Signaling in Regenerative Medicine (DBIO 201)			2	
Science of Medicine I (INDE 221)			12	
Year Total:		24	15	12

Second Year	Units		
	Autumn	Winter	Spring
Science of Medicine II-A (INDE 222A)	7		
Science of Medicine II-B (INDE 222B)	7		
Microbiology and Infectious Diseases III (INDE 265)		2	
Science of Medicine III-A (INDE 223A)			5
Science of Medicine III-B (INDE 223B)			5
Pharmacological Treatment of Disease (INDE 260A)			1
Pharmacological Treatment of Disease (INDE 260B)			1

Year Total: 16 12

Total Units in Sequence: 79

Non-Course Requirements

All students must complete a Clinical Experience prior to conferring the degree. Most often this takes the form of a shadow arrangement, equivalent to 1 week of full-time work (40 hours). This arrangement can be broken up as desired (e.g., four weeks quarter-time or two weeks part-time). Students are encouraged to match the clinical experience to their research interest. Primary responsibility to find these opportunities falls to each student.

Master of Science in Medicine, Subplan in Biomedical Investigation

The University's basic requirements for the M.S. degree are discussed in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/>)" section of this bulletin.

Overview

The goal of the Stanford Berg Scholars Program (Master of Science in Medicine with a subplan in Biomedical Investigation) is to address decreasing numbers of physician-scientists by shortening the training period without compromising quality of research, focusing instead on individualized career development of our M.D.-only physician-scientists by placing them in outstanding research groups led by experienced faculty.

Degree Requirements

Berg Scholars must complete all Stanford University requirements for the Master in Science (M.S.) in Medicine in Biomedical Investigation while pursuing their M.D. Students must adhere to the University's residency requirements (<http://exploreddegrees.stanford.edu/graduatedegrees/#residencytext>). Units may not be duplicated or double-counted toward the residency requirement for both degrees. Students must complete the master's degree requirements within three years of the first graduate quarter of the M.S.

Course Requirements

Students are required to complete 280 minimum units (combined M.S. and M.D.) to graduate. These unit are broken down as follows:

- 45 unduplicated units taken in specific courses for the M.S. degree
 - 33 units in research
 - 12 units of coursework (11 required plus 1 elective)
- 235 units in pre-clinical and clinical clerkships for the M.D. degree

Only courses 100 level or above can be counted towards the degree. A minimum of 23 units must be at the 200-level or above. All courses towards the 45 unit requirement must receive a passing grade.

	Units
Core Courses	
MED 255 The Responsible Conduct of Research	1
INDE 217 Physician Scientist Hour (take this course three times)	3
INDE 258 PSTP Career Development Symposium	1
SOMGEN 223 Introduction to R for data analysis	3
Choose one of the following	3
EPI 259 Introduction to Probability and Statistics for Epidemiology	
EPI 261 Intermediate Biostatistics: Analysis of Discrete Data	

or an equivalent course for a minimum of 3 units

Research Units		
Complete 33 units of research from the SoM department in the student's file of study		33
Such courses are typically numbered 399		
Elective courses		
Choose one or more of the following:		1-5
MED 221	Translational Research and Applied Medicine	
BIOE 390/ MED 289	Introduction to Bioengineering Research	
BIO/BIOC 459	Frontiers in Interdisciplinary Biosciences	
BIODS 260A	Workshop in Biostatistics	
BIODS 260B	Workshop in Biostatistics	
BIODS 260C	Workshop in Biostatistics	
BIOE/BIOMEDIN/ GENE 212	Introduction to Biomedical Informatics Research Methodology	
BIOMEDIN 233	Intermediate Biostatistics: Analysis of Discrete Data	
BIOMEDIN 251/ HRP 252/MED 252	Outcomes Analysis	
BIOS 274	Introductory Python Programming for Genomics	
CHPR 206	Meta-research: Appraising Research Findings, Bias, and Meta-analysis	
CHPR 227	The Science of Community Engagement in Health Research	
COMP MED 211	Biostatistics for the Life Sciences	
GENE 211	Genomics	
HRP 207	Introduction to Concepts and Methods in Health Services and Policy Research I	
HRP 208	Introduction to Concepts and Methods in Health Services and Policy Research II	
EPI 216	Analytical and Practical Issues in the Conduct of Clinical and Epidemiologic Research	
HRP 218	Methods for Health Care Delivery Innovation, Implementation and Evaluation	
EPI 219	Evaluating Technologies for Diagnosis, Prediction and Screening	
EPI 223	Introduction to Data Management and Analysis in SAS	
EPI 225	Introduction to Epidemiologic and Clinical Research Methods	
EPI 226	Intermediate Epidemiologic and Clinical Research Methods	
EPI 261	Intermediate Biostatistics: Analysis of Discrete Data	
EPI 262	Intermediate Biostatistics: Regression, Prediction, Survival Analysis	
EPI 264	Foundations of Statistical and Scientific Inference	
EPI 275	Population Health Research	
IMMUNOL 210	Immunology Research Seminars for Medical Students	
MED 206	Meta-research: Appraising Research Findings, Bias, and Meta-analysis	
MED 224	Social Entrepreneurship and Innovation Lab (SE Lab) - Human & Planetary Health	
NSUR 249	Experimental Immersion in Neuroscience	
RADO 203SI		

STEMREM 201A	Stem Cells and Human Development: From Embryo to Cell Lineage Determination
SURG 202A	Practical Applications for Qualitative Data Analysis
SURG 202B	Practical Applications for Qualitative Data Analysis
SURG 202C	Qualitative Research Methods and Study Design
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Total Units	45-49

Non-Course Requirements

Additionally, students must complete the following non-course requirements in order to confer their degree.

Research Proposal

Students must submit a written research proposal for committee review.

Research Proposal Presentation

Students must orally present their proposed research to their research committee for approval.

Thesis Defense

Students must defend their thesis with an oral presentation and closed door questioning from their research committee.

Thesis

Students must publish their thesis in order to confer their M.S. degree.

Doctor of Medicine (M.D.)

Candidates for the degree of Doctor of Medicine (M.D.) must satisfactorily complete the required curriculum in medicine. The requirements for the M.D. degree are detailed below and in the M.D. Handbook.

Overview

The Discovery Curriculum enables students to complete their M.D. program at a more individualized pace, introducing a greater diversity of learning pathways available to students. Depending on their unique goals and pursuits at Stanford, students can complete the pre-clerkship curriculum at full pace in two years or at a slower pace in three years. During the first year, all students complete the same courses at the same pace. In Autumn Quarter of the second year, students can complete the remainder of their pre-clerkship curriculum at full pace or apply for the option of splitting the course workload over two years. Students who are approved for the three-year option have substantially more open time to pursue independent research, a dual degree, or other longitudinal scholarship and leadership activities. The course requirements, learning objectives, and assessments are the same for two-year and three-year pre-clerkship students. The three-year option is selective with an application process; the majority of students are expected initially to opt for the traditional two-year pre-clerkship option.

Degree Requirements

Satisfactory completion of a minimum total of 238 required academic units as specified in the table Courses and Units for Students Matriculating Academic Year 2020-21.

Students cannot graduate with any uncorrected failing grade in a pre-clerkship course or any uncorrected failing or marginal pass grade in clinical clerkships. Students can graduate with one uncorrected marginal pass in a pre-clerkship course having fewer than 8 units.

Course Requirements

Students must successfully complete a minimum of the following:

- 124 pre-clerkship units
- 6 units of additional required coursework (INDE 297 and MED 295)
- 64 weeks of clerkships equaling at least 96 units
- 12 units of a Scholarly Concentration

Requirements & Timeline

The following is a list and timeline of required courses for students who continuously pursue the M.D. without engaging in a dual degree or separate research track.

		Units
Pre-Clerkship Coursework		
Quarter 1 (32-39 units)		
INDE 201	Practice of Medicine I	8
SURG 203	Clinical Anatomy	11
BIOC 200	Applied Biochemistry	2
BIOC 205	Molecular Foundations of Medicine	4
GENE 202	Human Genetics	4
SURG 201	Embryology	1
INDE 218	Histology	1
EMED 201	Basic Cardiac Life Support for Healthcare Professionals	1
Elective Coursework		0-7
Quarter 2 (21-26 units)		
INDE 202	Practice of Medicine II	5
INDE 263	Microbiology and Infectious Diseases I	3
IMMUNOL 205	Immunology in Health and Disease	4
NBIO 206	The Nervous System	6
DBIO 201	Cells and Signaling in Regenerative Medicine	2
Elective Coursework		0-5
Quarter 3 (19-26 units)		
INDE 203	Practice of Medicine III	6
INDE 221	Science of Medicine I	12
Elective Coursework		0-7
Early Clinical Engagement Requirement		
Must be completed during the 1st year of study.		
Complete one (1) of the following options:		
INDE 268	Early Clinical Engagement	1
Must commit to course by Autumn quarter Final Study List deadline. Enroll in the Spring. But must participate in the course in Aut, Win, and Spr.		
PEDS 281	Childhood Chronic Illness: Impact on Family Development	1
Must concurrently attend all of the INDE 268 didactic sessions throughout the year.		
INDE 290A	Walk With Me: A Patient and Family Centered Exploration of Health & The Health Care System	1
Or INDE 290B or INDE 290C; Must commit to course by Autumn Quarter Final Study List Deadline.		
FAMMED 280	Student Community Outreach and Physician Support (Must commit to course by Autumn Quarter Final Study List Deadline.)	1
Quarter 4 (24-39 units)		
INDE 204A	Practice of Medicine IV-A	4
INDE 204B	Practice of Medicine IV-B	4
INDE 222A	Science of Medicine II-A	7
INDE 222B	Science of Medicine II-B	7

INDE 265	Microbiology and Infectious Diseases III	2
Elective Coursework		0-15
Quarter 5 (18-26 units)		
INDE 205A	Practice of Medicine V	3
INDE 205B	Practice of Medicine V	3
INDE 223A	Science of Medicine III-A	5
INDE 223B	Science of Medicine III-B	5
INDE 260A	Pharmacological Treatment of Disease	1
INDE 260B	Pharmacological Treatment of Disease	1
Elective Coursework		0-8
Quarter 6 (10-26 units)		
INDE 206	Practice of Medicine VI	5
INDE 224	Pathophysiology Capstone	4
Elective Coursework		16
Core Clerkships		
The following must be taken within the student's first 12 months of clinical rotations		
MED 300A	Internal Medicine Core Clerkship	10
SURG 300A	Surgery Core Clerkship	10
Two (2) of the following must be completed within the student's first 12 months (16 periods) of clinical rotations		
OBGYN 300A	Obstetrics and Gynecology Core Clerkship	10
PEDS 300A	Pediatrics Core Clerkship	10
MED 313A	Ambulatory Medicine Core Clerkship	5
FAMMED 301A	Family Medicine Core Clerkship	5
NENS 301A	Neurology Core Clerkship	5
PSYC 300A	Psychiatry Core Clerkship	5
EMED 301A	Emergency Medicine Core Clerkship	5
Choose one (1) of the following		
ANES 306A	Critical Care Core Clerkship	5
ANES 306P	Critical Care Core Clerkship	5
Selective/Elective Clerkships		
Selective I: Fundamentals of Clinical Care		
Complete 3 weeks of clerkship listed under this category		
ANES 304A	Chronic Pain Management Clerkship	5
DERM 300A	Dermatology Clerkship	5
EMED 313A	Emergency Medicine Clerkship	5
EMED 313D	Emergency Medicine Clerkship	5
FAMMED 310A	Continuity of Care Clerkship	1-6
FAMMED 345E	Family Practice Office Clerkship	5
MED 303A	Cardiology Clerkship-Inpatient/Outpatient Consult	5
MED 303B	Cardiology Clerkship	5
MED 303C	Cardiology Clerkship	5
MED 306A	Endocrinology and Metabolism Clerkship	5
MED 322A	Outpatient Medical Oncology Clerkship	3-6
MED 323A	Trans-Disciplinary Breast Oncology Clerkship	5
MED 342A	Geriatric Medicine Clerkship	5
MED 343B	Palliative Care Clerkship	5
OPHT 300A	Ophthalmology Clerkship	5
OPHT 300E	Ophthalmology Clerkship	5
ORTHO 303C	Clinical Clerkship in Rehabilitation Medicine	5
ORTHO 304A	Physical Medicine and Rehabilitation Clerkship	5
ORTHO 306A	Orthopedics Clerkship	5

OTOHNS 307A	Otolaryngology/Head and Neck Surgery Clerkship	5
PEDS 315A	Adolescent Medicine	5
PEDS 340D	Child Health Clerkship	5
PSYC 328B	Addiction Treatment Services	5
RAD 301A	Diagnostic Radiology and Nuclear Medicine Clerkship	5
RADO 300A	Radiation Oncology Clerkship	5
UROL 308A	Urology Clerkship	5
UROL 308B	Urology Clerkship	5
UROL 308C	Urology Clerkship	5
Selective II: Subinternship		
Complete 3 weeks of clerkship listed under this category		
CTS 300A	Cardiothoracic Surgery Clerkship	5
FAMMED 364E	Subinternship in Family Medicine	5
MED 304A	Cardiovascular Medicine Clerkship - Inpatients	5
MED 311D	Advanced Medicine Clerkship	5
MED 312C	Advanced Medicine Clerkship	5
MED 314A	Advanced Medicine Clerkship	5
MED 321A	Inpatient Medical Oncology Clerkship	5
MED 339B	Advanced Medicine Clerkship	5
NENS 307A	Advanced Clinical Elective in Child Neurology	5
NENS 308A	Advanced Clinical Elective in Adult Neurology	5
NSUR 318A	Subinternship in Neurosurgery	5
OBGYN 304A	Inpatient Gynecology Clerkship	5
OBGYN 307A	Maternal-Fetal Medicine Clerkship	5
OBGYN 308A	Gynecologic Oncology Clerkship	5
ORTHO 318A	Subinternship in Orthopedic Surgery	5
OTOHNS 336A	Subinternship in Otolaryngology/Head and Neck Surgery	5
PEDS 313A	Neonatal Intensive Care Subinternship	5
PEDS 314A	Pediatric Intensive Care Clerkship	5
PEDS 335A	Pediatric Hematology and Oncology Subinternship	5
PEDS 336E	Subinternship in Community Hospital Pediatrics	5
PEDS 338A	Subinternship in Inpatient Pediatrics	5
PSYC 358A	Subinternship in Inpatient Psychiatry	5
PSYC 362B	Subinternship in Inpatient Psychiatry	5
SURG 311C	Clerkship at the Burn Center	5
SURG 316A	Pediatric Surgery Clerkship	5
SURG 333A	Multi-Organ Transplantation Clerkship	5
SURG 334A	Advanced Vascular Surgery Clerkship	5
SURG 338A	Advanced Surgery Clerkship	5
UROL 338A	Advanced Urology Clerkship	5
UROL 338C	Advanced Urology Clerkship	5

Elective Clerkship
 Students are required to complete 5-6 electives (of any 3** series clerkships) to reach the minimum of 64 weeks of clerkship training¹

Additional Course Requirements

INDE 297	Reflection and Contextual Medicine (students should enroll in INDE 297 in the last quarter of enrollment prior to graduation)	4	The unit requirements for the Scholarly Concentration can also be achieved by completion of a graduate degree at Stanford alongside the M.D.
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MED 295	Advanced Cardiac Life Support	2	
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¹ See the 'Clinical Clerkships by department (<https://med.stanford.edu/medfishbowl/ClrksDept.html>)' website for a list of all available clerkships.

Examination Requirements

Completion of the following examination requirements are required prior to conferral:

- Mini-CPX
 - An exam administered at the end of the pre-clerkship period. Students must meet or exceed a minimum passing score on the exam to be eligible to enter clerkships.
- Clinical Performance Examination (CPX)
 - An exam administered to all medical students in the State of California that may be taken at the end of the first year of clerkships. Students must demonstrate at least a minimum competency in each of the four skill areas. Students who fail to attain an overall passing score on the exam or who fail individual skill domains will have to complete a remediation program in order to graduate.
- United States Medical Licensing Examination (USMLE)
 - In order to graduate, students must pass USMLE Step 1 and Step 2 CK (Clinical Knowledge) and must have taken the Step 2 CS (Clinical Skills). Students must receive an overall pass on Step 1 of the USMLE within 12 months of the start of clinical clerkships. Students must take the USMLE Step 2 CS examination prior to graduation. A passing grade is not required for graduation but is required to take Step 3.

Scholarly Concentration

All students are required to fulfill the scholarly concentration requirement. All students must declare a concentration using the Medical Education Platform (MEP) by September 1st of their second year of study.

Students must choose one (1) area of study from a Foundation area listed below and complete 12 units of coursework:

- Bioengineering
- Biomedical Ethics and Medical Humanities
- Informatics and Data-Driven Medicine
- Clinical Research
- Community Health
- Health Services and Policy Research
- Medical Education
- Molecular Basis of Medicine

If desired, students can apply the skills developed in their foundation area to one of the application areas below. Up to 6 of the 12 units can come from one of the application areas:

- Cancer Biology
- Cardiovascular and Pulmonary
- Global Health
- Immunology
- Neuroscience, Behavior, and Cognition
- Prevention Research
- Quality Improvement
- Women's Health and Sex Differences

In addition, to the unit requirement, students must also complete two (2) non-course requirements (including those pursuing the additional graduate degree option):

Written Report

Students must submit a written report of their scholarly work by June 1 of their graduating year.

Presentation

Students must present their research and scholarly work by June 1 of their graduating year.

Medical Scientist Training Program

The Medical Scientist Training Program (MSTP) M.D.-Ph.D. program provides a select group of medical students with an opportunity to pursue a training program designed to equip them for careers in academic investigative medicine. Individualization of the curricular and research programs of each trainee is the hallmark of the Program.

Admission Requirements

Stanford's MSTP is interested in identifying students with significant undergraduate research experience that would predict successful completion of a Ph.D. program. In addition, successful candidates must meet the standards expected of the very best M.D. candidates. The Stanford Medical Scientist Training Program admissions process utilizes the same application, process, and all policies as the M.D.-only application. For information regarding the Stanford School of Medicine's M.D. Admissions process, policies and eligibility, visit the School of Medicine's How to Apply (<http://med.stanford.edu/md-admissions/how-to-apply.html>) website. For specific questions regarding the application process, please contact Stanford's M.D. Admissions directly at mdadmissions@stanford.edu.

Program Requirements

Training for a combined M.D.-Ph.D. includes the same content encountered by students who pursue each degree separately, but the total time of training should be less than the sum of the time normally taken for each degree. To this end, students must plan their training carefully and commit to a rigorous and intensive period of study. The flexible curriculum at the Stanford Medical School allows each student to satisfy the requirements for the M.D. degree and to pursue an independent research program.

For more information about the program structure, review the MSTP program website (<http://med.stanford.edu/mstp/structure.html>).

M.D. Degree Requirements

COVID-19 USMLE Exam Policies

Step 1

Per the MD Handbook, Section 3.22: *Students must take Step 1 of the USMLE within 12 months of the start of their first clinical clerkship.* However, due to testing center closures and postponed exams, the deadline date has been extended. **For all students who began clerkships prior to March 31, 2020, the deadline to take Step 1 is now March 31, 2021.** For students beginning clerkships after March 31, 2020 the original deadline of 12 months still applies. Please reference the full policy (<http://med.stanford.edu/md/mdhandbook/section-3-md-requirements-procedures/section-3-22-united-states-medical-licensing-examinations-requirements.html>) for more information. Students are encouraged discuss Step 1 plans with their Advising Deans.

Step 2 CS (Clinical Skills)

Per the MD Handbook, Section 3.22: *Students must take the USMLE Step 2 CS (Clinical Skills) examination prior to graduation. A passing score is not required for graduation but is required to sit for Step 3; passing Step 3 is required for licensure in California and virtually every other state.* However, as of May 26, 2020, the USMLE has suspended Step 2 CS test administrations for the next 12-18 months. **Therefore, the requirement to take Step 2 CS will be waived for students graduating in June 2021 (or before).** Please reference the full policy (<http://med.stanford.edu/md/mdhandbook/section-3-md-requirements-procedures/section-3-22-united-states-medical-licensing-examinations-requirements.html>) for more information.