

SCHOOL OF MEDICINE

PROGRAMS

- Applied Health Behavior Research (M88)
- Audiology & Communication Sciences (M89)
- Biomedical Informatics (M18)
- Biostatistics and Genetic Epidemiology (M21)
- Clinical Investigation (M17)
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- Population Health Sciences (M19)
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APPLIED HEALTH BEHAVIOR RESEARCH PROGRAM

APPLIED HEALTH BEHAVIOR RESEARCH (M88)

The graduate programs in Applied Health Behavior Research (AHBR) are housed in the Clinical Research Training Center (CRTC) in the Wohl Clinic.

Master of Science in AHBR

A 33-credit multidisciplinary, skills-based program designed for working professionals pursuing studies on a part-time basis, and full-time graduate students. A one year research intensive option can be completed in three semesters. The AHBR program focuses on developing the applied skills needed to manage health behavior programs and research projects in academic, clinical, and community settings. Two concentrations are offered:

- Health Behavior Research (HBR)
 - HBR Option (full- or part-time)
 - HBR-Research Intensive Option (full-time)
- Health Education, Program Planning & Evaluation (HEPPE) (full- or part-time)

There is no thesis or practicum requirement for this program.

Graduate Certificate in Health Behavior Planning and Evaluation

A 15-credit hour program focused on the key applied and theoretical concepts in health behavior, and processes for managing program development and evaluation activities in clinical and community-based settings.

Registration Instructions for students in AHBR graduate programs

The AHBR Program Manager oversees student registration. Enrollment is subject to space available. Contact ahbr@email.wustl.edu for more information.

Registration Instructions for Students Outside of AHBR Programs

Before registering, current Washington University students must obtain appropriate consent from their division/department. Students outside of the AHBR program must have permission from the AHBR Program to register. Please contact ahbr@email.wustl.edu prior to registration.

Academic Calendar

Fall courses begin on August 24, 2020. Registration for Fall 2020 opens on April 15, 2020. The last day to drop a class and receive a full refund is September 11, 2020.

For the full AHBR academic calendar, please visit <https://crtc.wustl.edu/courses/class-list/academic-policies/>

AHBR Program Leadership
Amy McQueen, PhD, Program Director

Further Information

For more information, please visit our website or contact the Project Manager directly:
<https://crtc.wustl.edu/programs/degrees/ahbr/>
ahbr@email.wustl.edu.

AUDIOLOGY AND COMMUNICATION SCIENCES

AUDIOLOGY AND COMMUNICATION SCIENCES (M89)

The Program in Audiology and Communication Sciences (PACS) is located in the Central Institute for the Deaf (CID) Building, 4560 Clayton Avenue, Suite 2000 (2nd Floor). Please refer to School of Medicine campus map.

Contact Information

Phone: (314) 747-0104
Fax: (314) 747-0105
Web: <http://pacs.wustl.edu>
Email: pacs@wustl.edu
Web: <http://pacs.wustl.edu>

Minor - Speech and Hearing Sciences

A minor in Speech and Hearing Sciences is available to qualified WUSTL students enrolled in the College of Arts & Sciences. This minor provides students with an introduction to the fields related to speech, hearing, language, and deafness, and can also be designed to meet prerequisite requirements for students interested in entering graduate programs in audiology, deaf education, or speech-language pathology. Please contact the PACS Office or your major advisor, or refer to the current Handbook of Academic Minors, for more information.

Graduate Programs

Doctor of Audiology (Au.D.)
Master of Science in Deaf Education (M.S.D.E.)
Doctor of Philosophy (Ph.D.) in Speech and Hearing Sciences

Registration Instructions

Enrollment in courses in the Minor in Speech and Hearing Sciences is open to students outside PACS, including undergraduates. Additional courses may also be open for registration by non-PACS students with instructor permission; refer to the course description for information.

Academic Calendar

The Program in Audiology and Communication Sciences follows the academic calendar of the College of Arts & Sciences. Final exam schedules are determined by PACS.

BIOMEDICAL INFORMATICS

BIOMEDICAL INFORMATICS (M18)

The graduate degree programs in biomedical informatics are housed in the Institute for Informatics (I2)

Master of Science in Biomedical Informatics (MS BMI)
The MS in Biomedical Informatics (BMI) provides comprehensive and competency-based training in core BMI theories and methods for:

- 1) Recent college graduates with backgrounds in the biological and/or computational sciences
- 2) In-career learners with a broad range of experiences in biomedicine/biosciences mathematics, physical or computer information sciences or engineering, and cognitive and/or social sciences.

The 36-unit degree program offers grounded theory and a broad range of applied skills for three separate tracks:

- 1) Translational bioinformatics and clinical research informatics (TBI/CR1)
- 2) Clinical Informatics (CI)
- 3) Bioinformatics (BI).

Students can personalize approved electives and competency courses based on their chosen track and educational background. The degree can be completed full or part time and it will culminate with a thesis or capstone project.

Certificate in Biomedical Informatics
To earn a certificate in Biomedical Informatics, scholars are required to select a track from above and complete 16 credits of core curriculum.

Core Courses

All students in both the certificate and the MS program will be expected to take the core classes listed below (with the exception of the research credit hours)

- M18-5302 Biomedical Informatics I: Foundations
- M18-5303 Biomedical Informatics II: Methods
- M18-5203 Advanced Topics in Biomedical Research
- M18-5200 Biomedical Informatics Journal Club
- M18 5304 Introduction to Biomedical Computing I

Registration Instructions for MS and Certificate in Biomedical Informatics Candidates
The I2 Program Manager and Academic Advisor manage BMI enrollment. Enrollment is subject to space availability. Registration for degree-seeking MS students begins September 1, 2020. Application deadline is February 1, 2021. Contact Jeanne Silvestrini at j.silvestrini@wustl.edu for more information.

Registration for the Certificate in Biomedical Informatics opens September 1, 2020. Application deadline is July 1, 2021.

Registration Instructions for Students Outside of BMI Programs
Students outside of the BMI programs must have permission from the BMI Program to register. Please contact krussela@wustl.edu prior to registration.

2020-2021 Academic Calendar
Courses follow the calendar of the College of Arts & Sciences.

BMI Program Leadership
Philip R.O. Payne, PhD, FACMI
Program Director

Andrea Krussel, MA
Program Manager

Further Information
For more information please visit our website at: <https://informatics.wustl.edu/>

For specific questions about the Biomedical Informatics MS and certificate programs, please contact Jeanne Silvestrini at j.silvestrini@wustl.edu

BIostatistics & GENETIC EPIDEMIOLOGY

The Division of Biostatistics offers two master degree programs and a certificate in Biostatistics, as well as post-doctoral master's degree and certificate in Genetic Epidemiology. The program is located in the Becker Medical Library building at the corner of Euclid and Barnes-Jewish Hospital Plaza at 660 South Euclid, 5th Floor. Please refer to the map of the School of Medicine.

Master of Science in Biostatistics and Data Science (MSBDS)
July 2020-December 2021

These 42-credit hour, 18-month degree programs are designed to train students on how to manage, analyze and interpret health data using statistical and data science approaches. Internationally renowned faculty from multiple disciplines, including Biostatistics, Genetics, Informatics, Medicine, and Public Health, will train a new generation of quantitative scientists. The curriculum offers a unique training experience that combines core data science learning in statistical and computational methodologies with practical training in real-world data analysis of cutting-edge biomedical and genomics research. We seek those with undergraduate or higher degrees in quantitative sciences (mathematics, statistics, computer science, biomedical engineering, or a closely related field). For the MSIBS degree, a choice of two pathways is offered in either area of concentration: Biostatistics or Statistical Genetics.

Genetic Epidemiology
We offer a Certificate in Genetic Epidemiology, which may be earned with successful completion (with a minimum of a "B" average) of 7 core courses, totaling 19

credit hours. These courses are only offered in the summer and fall semesters and must be completed within one or two years:
M21-503 Statistical Computing with SAS®
M21-506 R for Data Science
M21-515 Fundamentals of Genetic Epidemiology
M21-550 Intro. to Bioinformatics
M21-560 Biostatistics I
M21-570 Biostatistics II
M21-5483 Human Genetic Analysis

Entry for new students begins in the summer semester.

We also offer a post-doctoral master's degree in Genetic Epidemiology. Interested candidates with an existing doctoral degree in a relevant field may contact the program manager for additional information.

2020-2021 Academic Calendar
Courses follow the calendar of the College of Arts & Sciences.

Summer 2020 Academic Calendar
Summer classes are intensive, meeting full days during the week. Early workshops are required at no cost to students enrolled in one or more summer or fall courses. Orientation is in early July.

- M21-503 Statistical Computing with SAS®
- M21-560 Biostatistics I
- M21-506 R for Data Science

Registration Instructions for M.S. Candidates
The degree programs are structured and sequential. Students cannot, therefore, register online but must register with the Biostatistics Program Manager.

Registration Instructions for Students Outside the Degree Programs
Before registering, current Washington University students must obtain appropriate consent from their division/department. Students outside the degree/certificate programs enrolling in individual courses must also have permission of the course master. Contact the Biostatistics Program Manager to initiate.

Further Information
For the Master degree programs in Biostatistics, see our website at <https://biostatistics.wustl.edu> or contact the Program Manager for further information: telephone 314-362-1384 or email biostat-msibs@email.wustl.edu.

CLINICAL INVESTIGATION PROGRAM

CLINICAL INVESTIGATION (M17)

The degree programs in clinical investigation are housed in the Clinical Research Training Center in the Wohl Clinic.

Master of Science in Clinical Investigation (MSCI)
A 33-credit degree program for young investigators committed to pursuing academic careers in clinical

research. This innovative program couples high-quality didactic courses with mentored research and a weekly, multi-disciplinary seminar to meet the needs of clinicians seeking training in clinical research. The Clinical Research Curriculum covers the full spectrum of T1 to T4 Translational Research. The degree program offers three tracks to degree completion: Clinical Investigation Track, Translational Medicine Track, and Genetics/Genomics Track. The degree culminates in a research thesis which can consist of a peer-reviewed manuscript or an entrepreneurial project.

Certificate in Clinical Investigation

To earn a Certificate in Clinical Investigation, scholars are required to complete 16 credits of core curriculum:
 M17-513 Designing Outcomes & Clinical Research
 M17-522 Introduction to Statistics
 M17-524 Intermediate Statistics
 M17-510 Ethical & Legal Issues in Clinical Research
 M17-589 Advanced Methods for Clinical & Outcomes Research
 M17-528 Grantsmanship OR
 M17-529 Scientific Writing and Publishing

Registration Instructions for MS in Clinical Investigation candidates

The MSCI Curriculum Coordinator manages student registration. Enrollment is subject to space available. Applications are open September 15 – November 1 for January start date, and January 1 – April 15 for Summer or Fall start date. Contact crcmsci@email.wustl.edu for more information.

Registration Instructions for Students Outside of MSCI Program

Before registering, current Washington University students must obtain appropriate consent from their division/department. Students outside of the MSCI program must have permission from the MSCI Program to register. Please contact crcmsci@email.wustl.edu prior to registration.

Fall 2020 Academic Calendar

Fall courses begin on August 24, 2020. Registration opens on April 15, 2020. The last day to drop a class and receive a full refund is September 11, 2020.

MSCI Program Leadership

David K. Warren, MD, MPH
 Program Director

Dominic N. Reeds, MD
 Program Co-Director

Further Information

For more information and the complete academic calendar, please visit our website at: <https://crtc.wustl.edu/programs/degrees/msci/>

For specific questions about the Clinical Investigation degree or curriculum, please contact crcmsci@email.wustl.edu.



MEDICAL PHYSICS (M91)

The Graduate programs in Medical Physics are housed in the Center for Advanced Medicine located at 4921 Parkview Place.

Master of Science in Medical Physics
 The MS in Medical Physics (MSMP) provides exposure to a wide array of radiation treatment techniques and quality control procedures as well as cutting edge research intended for:

- 1) Recent college graduates with backgrounds in Physics or Engineering sciences.
- 2) Post-bachs who are interested in preparing themselves to apply to Medical Physics clinical residency programs.

The 36-unit degree program offers the knowledge, skills, and experience necessary to prepare students for careers in medical physics with 2 tracks:

- 1) Clinical Project Stream
- 2) Thesis Research Stream

Students can select approved electives and optional summer research or clinical experiences based on their chosen track and educational background. The degree is intended to be completed full-time and it will culminate with a thesis or capstone project.

Post PhD Certificate in Medical Physics

The Post PhD Certificate in Medical Physics is intended to provide those with PhD's in Physics an alternative pathway to preparation for entry into Medical Physics Clinical Residency Programs. The certificate is 18 credit hours of core courses and can be completed on a 1-year or 2-year schedule.

- BIOL 4580: Principles of Human Anatomy/Development
- MP 502: Radiological Physics and Dosimetry
- MP 521: Radiation Protection and Safety
- BME 589: Biological Imaging Technology
- MP 505: Radiobiology
- MP 506: Radiation Oncology Physics
- MP 523: Advanced Clinical Medical Physics Lab

Registration Instructions for Students in MP Graduate Programs

The MP Program Director and Program Coordinator manage academic enrollment. Enrollment is subject to space availability. Registration for degree-seeking students begins April 9, 2020. Contact Justina Dodson at justina@wustl.edu for more information.

Registration Instructions for Students Outside of MP Programs

Before registering, current Washington University students must obtain appropriate consent from their division/department. Students outside of the MP programs must have permission from the MP Program to register. Please contact justina@wustl.edu prior to registration.

Fall 2020 Academic Calendar

Fall courses begin on August 24, 2020. Registration opens on April 9, 2020. The Program Coordinator will register all Masters and Certificate students for required courses.

MP Program Leadership

Rao Khan, PhD
 Program Director

Tiezh Zhang, PhD
 Program Co-Director

Further Information

For more information and the complete academic calendar, please visit our website at: <https://radonc.wustl.edu/>

For specific questions about the Medical Physics degree or curriculum, please contact justina@wustl.edu



OCCUPATIONAL THERAPY PROGRAM

(M01)

The Program in Occupational Therapy is located at 4444 Forest Park Blvd. at the corner of Forest Park Blvd. and Newstead Ave. Please refer to the Medical Center map.

Master of Science in Occupational Therapy

The Master of Science in Occupational Therapy (MSOT) is a professional, entry-level master's degree offered through the Washington University School of Medicine. The degree program is a structured, two and one-half year curriculum designed to prepare practicing professionals in the discipline of occupational therapy. The curriculum fulfills all of the requirements necessary to sit for the national certification exam for occupational therapists.

Three-Two Program

Washington University undergraduates may elect to become part of the three-two program in occupational therapy. Undergraduates completing prerequisite requirements, may apply to the graduate OT program in their junior year. For more information, or to explore occupational therapy as a career, please contact Kathleen Kniepmann, MPH, OTR/L at 286-1610. Several OT courses welcome undergraduate students with an interest in disability issues.

Doctor of Occupational Therapy Degree Program

The Doctor of Occupational Therapy (OTD) is a professional degree offered by the School of Medicine providing students the opportunity to focus their OT studies in one of six areas of concentration: Productive Aging, Children & Youth, Rehabilitation Science, Neurorehabilitation, Work & Industry, or Social Participation and the Environment. This is a three and one-half year curriculum which fulfills all requirements necessary to sit for the national certification exam for occupational therapists.

Registration Instructions

Enrollment in any of the graduate level courses requires acceptance into the Program in Occupational Therapy

or approval of the coursemaster. Students wishing to enroll should contact the program at (314) 286-1600. Registration of matriculated graduate students is performed on-line by the administrative staff.

The Academic Calendar
The Program in Occupational Therapy follows the calendar of the College of Arts and Sciences.

Contact Persons
Lisa Connor, PhD, OTR/L
Elias Michael Director
(314) 286-1600

Shannon Eckhoff
Academic Systems Manager
(314) 286-1600

The Program in Occupational Therapy hosts several events each year for Danforth students who wish to visit the Program and investigate occupational therapy as a career. For more information, please contact Kathleen Kniepmann at (314) 286-1610.



Academic Calendar 2020-2021

Fall Semester (1st, 2nd Year Classes)

1 st Year Orientation	Aug 11 - 14
2 nd Year Orientation	Aug 13 - 14
1 st Year Classes Begin	Aug 17
2 nd Year Classes Begin	Aug 17
Labor Day	Sep 7
Fall Break	Oct 5 - 6
Thanksgiving Break	Nov 25 - 27
Finals	Dec 7 - 11
Winter Break	Dec 21 - Jan 4
3rd Year Class:	
CE III -	Jul 6 - Sep 11
CE IV -	Sep 28 - Dec 18

Spring Semester (1st, 2nd, 3rd Year Classes)

1st Year Class:	Jan 4 - Apr 30
Classes Begin	Jan 4
MLK Holiday	Jan 18
Spring Break	Mar 1 - 5
Finals	Apr 26 - 30
CE I	May 10 - Jul 2
2nd Year Class:	Mar 8 - Jun 25
CE II	Jan 4 - Feb 26
MLK Holiday	Jan 18
Spring Break	Mar 1 - 5
Classes Begin	Mar 8
Finals	Jun 21 - 25
3rd Year Class:	Jan 4 - May 4
Classes Begin	Jan 4
MLK Holiday	Jan 18
Spring Break	Mar 1 - 5
Finals	May 3 - 4
Graduation	May 21

The program in Physical Therapy is located at the corner of Forest Park Blvd and Newstead Ave at 4444 Forest Park Blvd. Please refer to the Medical Center map.

DEGREE PROGRAMS -

Doctor of Physical Therapy

An entry-level, full-time program that focuses on diagnosis and evidence based practice of physical therapy. This program refines scientific and biomedical knowledge incorporating additional clinical experiences and coursework to prepare students for the practice of physical therapy. This degree is offered through the School of Medicine and courses are coded M02.

Course Restrictions

Physical Therapy courses, with the exception of PT 5001 Independent Study, are open ONLY TO INDIVIDUALS ENROLLED IN THE PROGRAM IN PHYSICAL THERAPY (GP).

Registration Information

The Program in Physical Therapy is a structured three year curriculum for the Doctor of Physical Therapy degree. Registration for physical therapy students is NOT completed on-line. Withdrawal from required courses must be approved by either the program's Director of the Associate Director for Professional Education.



MASTER OF POPULATION HEALTH SCIENCES

The Master of Population Health Sciences (MPHS), offered by Washington University School of Medicine, is designed as a ten-month, full-time degree program that meets the needs of clinicians seeking training in population-based research methods. Its quantitative curriculum emphasizes the role of epidemiology and biostatistics in approaching clinical effectiveness and outcomes research. The MPHS does not require a research thesis/capstone. Instead, the program uses applied coursework to focus on the long-term application of skills. Using topics relevant to their careers and interests, the applied coursework allows MPHS students to practice the art of developing research study protocols, performing systematic reviews, designing epidemiologic studies and more. The MPHS program currently offers three concentrations: Clinical Epidemiology, Health Services and Psychiatric and Behavioral Health Sciences.

Successful applicants will have a strong academic record and relevant academic preparation with particular emphasis on quantitative skills, identified clear career goals that correlate to MPHS program competencies, and completed (or in the process of completing) a clinical training program at the doctoral level. 2020 - 2021 applications are due March 27, 2020.

MPHS students take seven required core courses; an introduction to SAS, a sequence of three courses in epidemiology, two courses in biostatistics, and research ethics. Eligible elective credits include courses offered through the MPHS program as well as other population health-related graduate courses offered at Washington University (program director approval required).

Graduating MPHS students will have demonstrated skill in program competencies including study design, program evaluation, data analysis (theory and application), use of statistical software packages (e.g. SAS), calculating rates, meta-analysis, statistical modeling, clinical trials, and observational studies.

The academic year is divided into four intensive 8-week quarters designed to allow full-time MPHS students to complete the program in ten months. Part-time study is allowed but students are expected to complete the degree within three years of matriculation. Students interested in part-time study need approval of the program director.

The MPHS Program Coordinator coordinates MPHS student registration. All other students register through and according to their home program processes; enrollment is subject to instructor approval.

2020-2021 MPHS Courses Calendar

Fall 2020

Session Fall I: August 24, 2020 to October 16, 2020
Session Fall II: October 19, 2020 to December 11, 2020

Winter 2021

Session Winter: January 15, 2021 to January 15, 2021

Spring 2021

Session Spring I: January 19, 2021 to March 12, 2021
Session Spring II: March 15, 2021 to May 10, 2021

MPHS Program Leadership
Graham Colditz, MD, DrPH,
Program Director

Further information available at www.mphs.wustl.edu or by contacting Blanka Hodzic, MPHS Program Coordinator, bhodzic@wustl.edu or (314) 286-0881.



ACADEMIC CALENDAR 2020 - 2021

June 2020
18-19 New 3rd year Students: Clinic Orientation

July 2020
2 Independence Day holiday begins at 5pm
3 Independence Day Observance
13 Academic year begins for Phase 1 Students - Initial Orientation/ tuition and fee payment due for Phase 1 Students

August 2020
3 3rd, 4th year Students: Academic year begins
17 Academic year begins for 2nd Year Students

September 2020
 6 Labor day holiday begins at 5 p.m.
 7 Labor Day Observance
 8 Academic year begins for Phase 1 Students – Initial Orientation/ tuition and fee payment due for Phase 1 Students

November 2020
 25 Thanksgiving Day holiday begins at 5pm
 26 Thanksgiving Day Observance
 27 Holiday for all classes

December 2020
 18 All classes: Winter recess begins at 5pm

January 2021
 4 All classes: Winter recess ends and classes resume at 8am
 17 Martin Luther King Day holiday begins at 5pm
 18 Martin Luther King Day Observance

March 2021
 26 Spring break begins at 5pm for 2nd Year Students

April 2021
 5 Classes resume for 2nd Year Students
 8 3rd and 4th year classes: Spring break begins at 5 pm
 12 Classes resume for 3rd and 4th Year Students
 30 Academic Year ends at 5 pm for 2nd Year Students

May 2021
 9 Academic year ends at 5 pm for Graduating Students
 21 Commencement (Friday)
 30 Memorial Day holiday begins at 5 pm
 31 Memorial Day Observance

June 2021
 4 Academic Year & Clinical Clerkships end at 5 pm for 3rd Year Students

Schedule of Clerkship & Elective Intervals		
Weeks 1-4	Aug 3 - Aug 30	2020
Weeks 5-8	Aug 31 - Sep 27	2020
Weeks 9-12	Sep 28 - Oct 25	2020
Weeks 13-16	Oct 26 - Nov 22	2020
Weeks 17-20	Nov 23 - Dec 20	2020
(Winter recess 5pm 12/21 - 1/3)		
Weeks 21-24	Jan 4 - Jan 31	2021
Weeks 25-28	Feb 1 - Feb 28	2021
Weeks 29-32	Mar 1 - Mar 28	2021
Weeks 33-36	Mar 29 - Apr 25	2021
Weeks 37-40	Apr 26 - May 23	2021

Tuition Payment Deadlines		
Class Level	Initial Payment	Final Payment
1st Year	July 13, 2020	Jan 8, 2021
2nd Year	Aug 21, 2020	Jan 8, 2021
3rd & 4th Year	June 26, 2020	Jan 8, 2021

NOTE: The beginning and ending dates of each academic term will be published with individual class schedules.

Doctor of Medicine Program
 The School of Medicine is located in the Washington University Medical Center at 660 S. Euclid.

Course Restrictions/Registration Procedures for Non-medical Students
 Courses listed in this section are restricted to students accepted into the Doctor of Medicine degree program unless otherwise noted in the course description.

Students not in the degree program interested in registering for the allowed courses should register under the crosslisted number noted, following the procedures of the student's home school. Dates, refunds and policies regarding withdrawal from a course will also be determined by the student's home school. Payment of fees to the School of Medicine will be handled administratively. Please note: prerequisites and required instructor permission must be strictly enforced. Students enrolling in any course without following specified procedures will be removed from the roster without notice. Space is sometimes limited and medical students must be given priority. If you must be dropped from a course due to unforeseen space limitations, you will be contacted immediately.

Registration Procedures for Medical Students
 Due to the structured nature of the program leading to the degree Doctor of Medicine, registration is most efficiently accomplished administratively. Online registration will NOT be used for the current academic year for medical students. You will be notified of procedures specific to your class. Policies of the School of Medicine apply regarding performance, payment of fees, etc. and are published in the Bulletin, CAPES Regulations and other medical school publications that are distributed to medical students.

Doctor of Philosophy/Doctor of Medicine and Master of Arts/Doctor of Medicine
 See the Division of Biology and Biomedical Sciences, Graduate School of Arts and Sciences. Joint degree students should follow registration procedures of the division that will be prime in the semester for which you are registering.

For additional information contact the Registrar's Office at 314-362-6848.

Availability of Medical Classes to Students Not Admitted to the Doctor of Medicine Program
 Registration for the following courses is open to students outside the Doctor of Medicine degree program only where noted in course descriptions, if all course prerequisites are met, and always with approval of the course director. Courses available for enrollment are identified as crosslisted. Students register in the division where the class is crosslisted and not with the medical school. Contact the School of Medicine at 314-362-6848 for further information about the availability of medical school courses.



Philosophy of the Elective Program
 The elective year allows the student to develop a flexible program which should be of great value and interest in the middle of an eight- to ten- year period of formal education. This flexible year occurs at a crucial time, helps the student decide on the rest of his/her formal education and helps focus productively upon already established interests. It also enables students to benefit from the wide range of specialized knowledge and skills found in the faculty. As there is not enough time for each

student to be introduced to each of today's areas of specialization, the elective program permits the student to select, according to desire, the areas s/he wishes to explore in depth.

Requirements
 To qualify for the degree of Doctor of Medicine at Washington University School of Medicine, students are required to satisfactorily complete a minimum of 32 weeks of approved electives in the fourth (final) year, in addition to a required four-week Capstone course. The fourth year encompasses a 44-week time block. At least 24 of the 36 weeks required time of the elective program must be taken on campus in the Washington University School of Medicine elective courses described in this catalog. Most students utilize most of the elective year for clinical electives. Clinical electives are generally of four weeks duration. Research electives are a minimum six weeks, and a maximum of 12 weeks duration. Special study electives are typically of four weeks duration. Reading electives may range from 1-4 weeks, but a student may not spend more than 4 weeks on reading electives.

NOTE: You should be aware that on January 1, 1996, the Medical Board of California, Assembly Bill 3497 added to Section 2089.5 of the Business and Professions Code a new requirement for four weeks of undergraduate clinical training in family medicine. This new family medicine requirement applies to all California licensing applicants who graduate from medical school after May 1, 1998.

Inquiries and correspondence should be directed to:

Office of Medical Student Education
 Washington University School of Medicine
 660 S. Euclid Avenue, Box 8214
 St. Louis, Missouri 63110
 (314) 362-6838

Medical students participating in any of the electives described in this booklet will be providing services as members of a team under the direct supervision of an attending physician or senior resident. While Washington University School of Medicine strives to provide each student with maximum responsibility and experience, students will be supervised in their efforts at all times until they are fully licensed. Visiting students should go to <https://md.wustl.edu/academics/visiting-students/> for eligibility requirements and additional information.

Fourth Year Medical School
 Washington University School of Medicine offers an extensive array of electives and research opportunities at the 800 and 900 course levels for the 4th year medical student.

Specific areas of study and research opportunities are listed below. **Please access the website for further details of elective offerings:**
<https://md.wustl.edu/academics/curriculum/electives-fourth-year/>

Anatomy and Neurobiology
 (Level 800)
 Advanced Dissection
 (Level 900)
 Research Opportunities

Anesthesiology
 (Level 800)
 Anesthesiology
 Anesthesia for Neurosurgery

<p>Cardiothoracic Anesthesiology Cardiothoracic Critical Care Critical Care Obstetrical Anesthesia Pain Management Pediatric Anesthesia</p> <p>Biochemistry and Molecular Biophysics (Level 900) Research Opportunities</p> <p>Cell Biology and Physiology (Level 900) Research Opportunities</p> <p>Developmental Biology (Level 900) Research Opportunities</p> <p>Genetics (Level 900) Research Opportunities</p> <p>Internal Medicine (Level 800) Adult Allergy and Clinical Immunology Ambulatory Care – Jacqueline Maritz Lung Center Ambulatory Infectious Disease Bone and Joint Infectious Disease Consult Bone and Mineral Diseases Bone Marrow Transplantation & Stem Cell Biology Cardiac Arrhythmias and Electrophysiology Clinical Cardiology – VA Clinical Emergency Medicine, Barnes-Jewish Hospital Clinical Gastroenterology and Hepatology Clinical Internal Medicine – Hospitalist Clinical Mentoring Clinical Nephrology Dermatology Emergency Ultrasound Endocrinology, Diabetes and Metabolism General Inpatient Infectious Disease Geriatric Medicine Heart Failure/Cardiac Transplantation Hematology and Hemostasis Honors Medicine – Cardiology Honors Medicine – General Medicine Honors Medicine – VA Hospital Inpatient Cardiology Inpatient Internal Medicine/Oncology-Firm Intensive Care Medicine – BJ North Intensive ECG Interpretation Medical Intensive Care Medical Toxicology Medicine Consult Service Occupational/Environmental Medicine Oncology-Inpatient Oncology-Outpatient Palliative Medicine Pulmonary Clinic for the Underserved Pulmonary Medicine, Barnes-Jewish Hospital Pulmonary Medicine – VA Hospital Rheumatology Transplant Infectious Disease Consult Wilderness Medicine (Level 900) Research Opportunities</p> <p>Molecular Microbiology (Level 900) Research Opportunities</p> <p>Neurology (Level 800) Adult and Pediatric Epilepsy Clinical Aspects of Aging and Dementia Clinical Neuroimmunology and Multiple Sclerosis MS Center Outpatient – Missouri Baptist Neonatal Neurology</p>	<p>Neuro-Oncology Neurology Subinternship Neurology Subinternship for Visiting Students Neurology/Neurosurgery ICU Pediatric Neurology Physical Medicine and Rehabilitation (Level 900) Research Opportunities</p> <p>Neurological Surgery (Level 800) Neurosurgery (Level 900) Research Opportunities</p> <p>Obstetrics and Gynecology (Level 800) GYN Female Pelvic Medicine & Reconstructive Surgery (Urogynecology) Subinternship GYN Oncology Subinternship Maternal-Fetal Medicine Outpatient Care Subinternship Maternal-Fetal Medicine Inpatient (Antepartum) Subinternship Obstetrical Anesthesia OB/GYN Endocrinology-Infertility Subinternship OB/GYN Outpatient Care Subinternship OB/GYN Ultrasound-Genetics Special Topics in Reproductive Health (Level 900) Research Opportunities</p> <p>Ophthalmology and Visual Sciences (Level 800) Ophthalmology (Level 900) Research Opportunities</p> <p>Orthopaedic Surgery (Level 800) Geriatric Musculoskeletal Medicine Orthopaedic Hand and Upper Extremity Surgery Orthopaedic Oncology Orthopaedic Pediatric Surgery Orthopaedic Spine Surgery in Adult Patients Orthopaedic Sports Medicine Orthopaedic Surgery Externship For Visiting Students Only Orthopaedic Surgery – Foot/Ankle Surgery Orthopaedic Surgery – Shoulder/Elbow Surgery Orthopaedic Trauma Pediatric Orthopaedic Spine & Sports Surgery Reconstructive and Joint Preservation Surgery (Level 900) Research Opportunities</p> <p>Otolaryngology (Level 800) Ambulatory Otolaryngology For the Primary Care Physician General Otolaryngology Otolaryngology Pediatric Otolaryngology Practicum in Adult Clinical Audiology (Level 900) Research Opportunities</p> <p>Pathology (Level 800) Autopsy Pathology Clinical Laboratory Medicine Dermatopathology Diagnostic Hematopathology General Cytopathology Introduction to Neuropathology Molecular Pathology OB-GYN Pathology Subinternship Surgical Pathology – Barnes/Jewish (Level 900) Research Opportunities</p> <p>Pediatrics</p>	<p>(Level 800) Clerkship in Rural Primary Care Pediatrics Clinical Pediatric Pulmonary Medicine General Pediatrics Subinternship – St. Louis Children's Hospital Genetics and Genomic Medicine Newborn Medicine Pediatric Asthma and Allergy Pediatric Cardiac Catheterization Pediatric Cardiology-Outpatient Service Pediatric Critical Care Medicine Pediatric Emergency Medicine Pediatric Endocrinology and Diabetes Pediatric Gastroenterology, Hepatology and Nutrition Pediatric Infectious Diseases Pediatric Lung Transplantation Pediatric Pulmonary Subinternship Pediatric Renal Disease Pediatric Rheumatology Quality of Care Through Health Informatics Subinternship in Pediatric Hematology and Oncology (Level 900) Research Opportunities</p> <p>Psychiatry (Level 800) Child Psychiatry Clinical Psychiatry-Inpatient Psychiatric Service Forensic Psychiatry Interventional Psychiatry Introduction to Eating Disorders Outpatient Community Psychiatry Psychiatric Oncology Psychiatry Consult Service Schizophrenia Precursors and Prodromal States (Level 900) Research Opportunities</p> <p>Radiation Oncology (Level 800) Clinical Radiation Oncology (Level 900) Research Opportunities</p> <p>Radiology (Level 800) Clinical Nuclear Medicine General Radiology Interventional Radiology (Level 900) Research Opportunities</p> <p>Surgery (Level 800) Cardiothoracic Surgery Colon and Rectal Surgery, Acting Internship Critical Care Ethical Challenges in Surgery and Medicine Hepatobiliary Pancreatic Surgery, Acting Internship Minimally Invasive Surgery, Acting Internship Organ Transplantation Pediatric Surgery Plastic Reconstructive Surgery Plastic Surgery Externship For Visiting Students Only Surgical Night Float and ER Subinternship Surgical Oncology and Endocrine Surgery, Acting Internship Trauma Service, Acting Internship Urology Vascular Surgery, Acting Internship (Level 900) Research Opportunities</p> <p>Additional Electives (Level 800) Fourth Year Capstone Course The Business of Medicine (Level 900) Research Opportunities</p>
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