

SCHOOL OF MEDICINE – SPRING 2019

PROGRAMS

- Applied Health Behavior Research (M88)
- Audiology & Communication Sciences (M89)
- Biomedical Informatics (M18)
- Biostatistics and Genetic Epidemiology (M21)
- Clinical Investigation (M17)
- Occupational Therapy (M01)
- Physical Therapy-Grad (M02)
- Physical Therapy-PP-DPT (M22)
- Population Health Sciences (M19)
- Doctor of Medicine
 - Anatomy & Neurobiology (M05)
 - Biochemistry & Molecular Biophysics (M15)
 - Cell Biology & Physiology (M75)
 - Divisions, Institutes & Other Categories (M80)
 - Elective Program-WUMS I (M04)
 - Family Practice (M26)
 - Internal Medicine (M25)
 - Molecular Biology & Pharmacology (M70)
 - Molecular Microbiology (M30)
 - Neurology (M35)
 - Obstetrics & Gynecology (M45)
 - Ophthalmology & Visual Sciences (M50)
 - Otolaryngology (M55)
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 - Pediatrics (M65)
 - Psychiatry (M85)
 - Radiology (M90)
 - Research (M99)
 - Surgery (M95)
- Elective Program-Fourth Year Medical School

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 (CRTCC) 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. Registration for degree-seeking students begins November 8, 2018. 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.

Spring 2019 Academic Calendar

Spring courses begin on January 14, 2019. Registration opens on November 8, 2018. The last day to drop a class and receive a full refund is January 29, 2019.

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:

M18-5302	Biomedical Informatics I: Foundations
M18-5303	Biomedical Informatics II: Methods
M18-xxxx	Advanced Topics in Biomedical Research
M18-5200	Biomedical Informatics Journal
M17-510	Ethical and Legal Issues in Clinical Research

Students will also take the following:
Biomedical Informatics Capstone
One additional elective

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 students begins November 8, 2018. Contact Andrea Krussel at: krussela@wustl.edu for more information.

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.

2018-2019 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 Andrea Krussel at krussela@wustl.edu

BIostatISTICS (MSIBS) & GENETIC EPIDEMIOLOGY PROGRAM (CERTIFICATE & MASTER'S)

The Division of Biostatistics offers a master's degree in Biostatistics, and a certificate as well as post-doctoral master's degree 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 (MSIBS)

July 3, 2018-December 19, 2019

This 42-credit hour, 18-month program is designed to prepare students for exciting careers in Biostatistics and Statistical Genetics. We seek those with undergraduate or higher degrees in quantitative sciences (mathematics, statistics, computer science, biomedical engineering, or a closely related field). 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 Primer
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.

2018-2019 Academic Calendar

Courses follow the calendar of the College of Arts & Sciences.

Summer 2018 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 from July 3-6, 2018.

M21-506 R Primer
M21-515 Fundamentals of Genetic Epidemiology
M21-550 Introduction to Bioinformatics
M21-503 Statistical Computing with SAS®

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's Degree 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 OR
- M17-588 Epidemiology for Clinical Research
- M17-522 Introduction to Statistics
- M17-524 Intermediate Statistics
- M17-510 Ethical & Legal Issues in Clinical Research
- M17-589 Intermediate 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. Registration for degree-seeking students begins November 8, 2018. Contact crtcmsci@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 crtcmsci@email.wustl.edu prior to registration.

Spring 2019 Academic Calendar

Spring courses begin on January 14, 2019. Registration opens on November 8, 2018. The last day to drop a class and receive a full refund is January 29, 2019.

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

crtcmsci@email.wustl.edu.

OCCUPATIONAL THERAPY PROGRAM

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 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

M. Carolyn Baum, Ph.D., OTR/L, FAOTA
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 hilltop 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.

PHYSICAL THERAPY PROGRAM

Academic Calendar 2018-2019

Fall Semester (1st, 2nd Year Classes)

1 st Year Orientation	Aug 14 - 17
2 nd Year Orientation	Aug 16
1 st Year Classes Begin	Aug 20
2 nd Year Classes Begin	Aug 17
Labor Day	Sep 3
Fall Break	Oct 1 - 2
Thanksgiving Break	Nov 21 - 23
Finals	Dec 10 - 14
Winter Break	Dec 17 - Jan 4
3rd Year Class:	
CE III -	Jul 9 - Sep 14
CE IV -	Oct 1 - Dec 21

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

1st Year Class:	Jan 7 - May 3
Classes Begin	Jan 7
MLK Holiday	Jan 21
Spring Break	Mar 4 - 8
Finals	Apr 29 - May 3
CE I	May 13 - Jul 5
2nd Year Class:	Mar 11 - Jun 28
CE II	Jan 7 - Mar 1
MLK Holiday	Jan 21
Spring Break	Mar 4 - 8
Classes Begin	Mar 11
Finals	Jun 24 - 28
3rd Year Class:	Jan 7 - May 7
Classes Begin	Jan 7
MLK Holiday	Jan 21
Spring Break	Mar 4 - 8
Finals	May 6 - 7
Graduation	May 17

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 or 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. 2019 – 2020 applications are due January 11, 2019.

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.

2018-2019 MPHS Courses Calendar

Fall 2018

Session Fall I: August 27, 2018 to October 19, 2018
Session Fall II: October 22, 2018 to December 19, 2018

Winter 2019

Session Winter: January 7, 2019 to January 11, 2019

Spring 2019

Session Spring I: January 14, 2019 to March 8, 2019
Session Spring II: March 11, 2019 to May 3, 2019

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 2018-2019

June 2018

14 New 3rd year class: Clinic Orientation
18 3rd, 4th year classes: Academic year begins

July 2018

3 Independence Day holiday begins, 5pm
4 Independence Day Observance

August 2018

6 1st year class: Orientation, matriculation & initial payment of tuition/fees
7 1st year classes: Academic year Begins
20 2nd year classes: Academic year Begins

September 2018

2 Labor day holiday begins at 5 p.m.
3 Labor Day Observance

November 2018

21 Thanksgiving Day holiday begins, 5pm
22 Thanksgiving Day Observance
23 Holiday for all classes

December 2018

21 All classes: Winter recess begins, 5pm

January 2019

7 All classes: Winter recess ends and classes resume, 8am
20 Martin Luther King Day holiday begins, 5pm
21 Martin Luther King Day Observance

March 2019

29 1st & 2nd year classes: Spring break begins, 5pm

April 2019

4 3rd and 4th year classes: Spring break begins at 5 p.m.

8 All classes: Classes resume, 8am

May 2019

3 2nd year class: Academic year ends, 5pm
5 Graduating students: Academic year ends, 5pm
17 Commencement (Friday)
26 Memorial Day holiday begins, 5pm
27 Memorial Day Observance
31 1st year class: Academic year ends, 5 p.m. move info/next 2 lines up by 31st
3rd year class: Academic year and Clinical clerkships end, 5pm

Schedule of Clerkship & Elective Intervals

Weeks 1-4	Jun 18 - Jul 15	2018
Weeks 5-8	Jul 16 - Aug 12	2018
Weeks 9-12	Aug 13 - Sep 9	2018
Weeks 13-16	Sep 10 - Oct 7	2018
Weeks 17-20	Oct 8 - Nov 4	2018
Weeks 21-24	Nov 5 - Dec 2	2018
Weeks 25-28	Dec 3 - Jan 13	2018-19 (Winter recess 5pm (12/21-1/6))
Weeks 29-32	Jan 14 - Feb 10	2019
Weeks 33-36	Feb 11 - Mar 10	2019
Weeks 37-40	Mar 11 - Apr 7	2019
Weeks 41-44	Apr 8 - May 5	2019
Weeks 45-48	May 6 - May 31	2019

Tuition Payment Deadlines

Class Level	Initial Payment	Final Payment
1st Year	Aug 6, 2018	Jan 11, 2019
2nd Year	Aug 24, 2018	Jan 11, 2019
3rd & 4th Year	Jun 22, 2018	Jan 11, 2019

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. On-line 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 coursemaster. 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 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:

**Electives Office
Washington University School of Medicine
660 S. Euclid Avenue, Box 8214
St. Louis, Missouri 6310
(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 <http://wusmdar1.wustl.edu/medstudents/eletvcat.nsf> 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
Cardiothoracic Anesthesiology
Cardiothoracic Critical Care
Critical Care
Obstetrical Anesthesia
Pain Management
Pediatric Anesthesia

Biochemistry and Molecular Biophysics

(Level 900)
Research Opportunities

Cell Biology and Physiology

(Level 900)
Research Opportunities

Developmental Biology

(Level 900)
Research Opportunities

Genetics

(Level 900)
Research Opportunities

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 Cardiovascular Medicine
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

Molecular Microbiology

(Level 900)
Research Opportunities

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
Neuro-Oncology
Neurology Subinternship
Neurology Subinternship for Visiting Students
Neurology/Neurosurgery ICU
Pediatric Neurology
Physical Medicine and Rehabilitation
(Level 900)
Research Opportunities

Neurological Surgery

(Level 800)
Neurosurgery
(Level 900)
Research Opportunities

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

Ophthalmology and Visual Sciences

(Level 800)
 Ophthalmology (Level 900)
 Research Opportunities

Orthopaedic Surgery

(Level 800)
 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

Otolaryngology

(Level 800)
 Ambulatory Otolaryngology For the Primary Care Physician
 General Otolaryngology
 Neurotology
 Otolaryngology
 Pediatric Otolaryngology
 Practicum in Adult Clinical Audiology (Level 900)
 Research Opportunities

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

Pediatrics

(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

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

Radiation Oncology

(Level 800)
 Clinical Radiation Oncology (Level 900)
 Research Opportunities

Radiology

(Level 800)
 Clinical Nuclear Medicine
 General Radiology
 Interventional Radiology (Level 900)
 Research Opportunities

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

Additional Electives

(Level 800)
 Biomedical Innovation and Entrepreneurship
 Fourth Year Capstone Course
 The Business of Medicine (Level 900)
 Research Opportunities