

# John T. Milliken

## Department of Medicine

Website: <https://internalmedicine.wustl.edu>

## Courses

Courses include the following:

- M25 Medicine (p. 1)
- M27 Emergency Medicine (p. 5)

## M25 Medicine

Visit online course listings to view offerings for M25 Medicine (<https://courses.wustl.edu/CourseInfo.aspx?sch=M&dept=M25>).

### M25 Medicine 805 Rheumatology (Clinical Elective)

Students will participate in the diagnostic work-up and management of patients with conditions such as: systemic lupus erythematosus, rheumatoid arthritis, scleroderma, vasculitis, spondyloarthropathies, and gout. There is less exposure to osteoarthritis and regional musculoskeletal problems. By working closely with faculty members, fellows, and medical residents, students actively contribute to the care of rheumatology patients through inpatient consultations and outpatient clinics at Barnes-Jewish Hospital. An emphasis is placed on the physical examination of joints and the musculoskeletal system, synovial fluid analysis, and interpretation of diagnostic tests and radiographs. Students attend rheumatology conferences. This elective enrolls students in the inpatient rheumatology consult service. Please contact the elective Course Director if you prefer a predominantly outpatient rotation, a mixed (inpatient and outpatient) learning experience, or exposure to a specific interest (i.e. adult-pediatric rheumatology, autoimmune eye disease, dermatology-rheumatology, etc).

### M25 Medicine 810 Geriatric Medicine (Clinical Elective)

The primary goal of this rotation is for students to gain proficiency in the principles of geriatric evaluation and management, including the medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of two to six patients per day, in a variety of settings including the outpatient Geriatric Assessment Clinics and Geriatric Medicine Primary Care clinics, inpatient Geriatric Medicine Consult service, Parc Provence Nursing Home, and The Rehabilitation Institute of St. Louis. Students will also have the opportunity to participate in hospice and home care visits, interdisciplinary team meetings, and observe assessments at the WU Memory Diagnostic Center (in Neurology). Students are expected to attend weekly conferences while on the rotation. The day normally begins at 8:30 am and is usually finished by 5:30 pm. There is no night or weekend call. Time is provided to read the detailed syllabus/bibliography. Many clinical activities are off-site from the medical campus; students will be required to coordinate transportation to and from such sites. Students will be expected to attend weekly educational conferences and give an oral presentation on a topic or journal article of their choice once during the rotation.

### M25 Medicine 821 Inpatient Cardiology (Clinical Elective)

Students will participate as members of the Barnes-Jewish Cardiology at Washington University Consultative Team. They will be part of a team composed of faculty members, fellows, residents, and nurse practitioners that sees a large population of cardiac patients and follows them through all aspects of their in-hospital care. Emphasis will be placed on physical examination and the interpretation of modern cardiac diagnostic tests including electrocardiograms, echocardiograms and coronary angiograms and their role in clinical decision making.

### M25 Medicine 823 Clinical Cardiology (Clinical Elective - VA)

The major purpose of this elective in clinical cardiology at the John Cochran VA Hospital is to improve evaluation and management skills for diagnosis and treatment of important cardiovascular conditions such as coronary artery disease including acute myocardial infarction, congestive heart failure, hypertension, and valvular heart disease. The rotation is designed to be flexible enough to accommodate a wide variety of course objectives but includes the opportunity to participate in 1-3 outpatient clinics per week; 1-4 weeks of inpatient intensive care, telemetry, or cardiology consultation rounds; and ECG, stress testing, nuclear imaging, or echocardiographic reading sessions, cardiac catheterization and electrophysiologic procedures. The emphasis will be on improvement of the ability to diagnose and treat cardiovascular disease on the basis of information obtained from a thorough history and physical examination that is integrated with data from appropriate highly targeted laboratory studies in a manner that optimizes patient outcome and minimizes risk and costs.

### M25 Medicine 825 Cardiac Arrhythmias and Electrophysiology (Clinical Elective)

Students will be members of the Cardiac Electrophysiology Consultation Team, which includes faculty members, fellows, residents, and nurse practitioners. The student will serve as the primary assessor for consultations and will, in concert with the rest of the team, complete the patient's assessment and initiation recommendations and plan, as well as follow up. There is an emphasis on ECG evaluation and gaining familiarity with indications and details of arrhythmia therapeutics, including catheter ablation procedures, implantable device procedures, assessment, and programming, as well as antiarrhythmic drug therapy.

### M25 Medicine 827 Heart Failure and Cardiac Transplantation (Clinical Elective)

This rotation is intended to provide trainees with a comprehensive experience managing patients with advanced heart failure. In addition to daily inpatient rounds, trainees are invited to attend both heart failure and transplant clinics. Further, the curriculum is supplemented by a syllabus that contains the critical literature pertinent to this patient population. The trainees will also have experience with the evaluation of patients for operative heart failure therapies and will have the opportunity to observe these surgical procedures.

### M25 Medicine 830 Dermatology (Clinical Elective)

The aim of this elective is to provide a guide for students so they are able to appreciate dermatology within the broader perspectives of medicine and biology. Emphasis will be placed on the dermatologic variations encountered in a normal physical examination of the skin, the identification of common skin diseases, dermatologic clues to systemic disease, as well as those dermatologic conditions that are life-threatening. The student will participate in outpatient care in the Barnes-Jewish Hospital, VA, and affiliated clinics. Students will attend all clinical teaching rounds and conferences in addition to the basic science and cutaneous histopathology conferences.

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**M25 Medicine 831 Pediatric Dermatology (Clinical Elective)**

This clinical rotation will be available to students interested in dermatology, pediatrics or both. Students will follow the dermatology rotation (M25 830) with an emphasis on pediatric dermatology by attending pediatric dermatology clinics, seeing consults, etc.

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**M25 Medicine 836 Clinical Gastroenterology and Hepatology (Clinical Elective)**

The GI Hepatology elective is integrated into a very active inpatient and endoscopy service at Barnes-Jewish Hospital. Students will participate in the evaluation of inpatients with a spectrum of gut and liver disorders, make patient rounds with the faculty and fellows, and have responsibility for patients on whom consultations have been requested. In addition, they will observe general endoscopic techniques and participate in GI conferences.

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**M25 Medicine 836A Management of Inflammatory Bowel Disease (Clinical Elective)**

This elective will allow students to spend an intensive period of time learning about all aspects of the care of patients with IBD (surgical, endoscopic, and medical management). Although a predetermined schedule has been developed, it can be modified based on the student's interest. Alternative options include: - inpatient IBD care (Barnes-Jewish Hospital and Barnes West County) - wound clinic / stoma care - specialized endoscopy (chromoendoscopy, ERCP) - IBD / colorectal surgery - pathology

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**M25 Medicine 838 Medicine Consult Service (Clinical Elective)**

The focus of the Medicine Consult Service elective is the evaluation and management of medically complex patients admitted to the hospital on non-medicine services. The issues involved with perioperative management are particularly stressed. The student will function as a member of the consult service team. Duties will include performing initial consultations and follow-up care under the supervision of a Hospital Medicine attending and a senior medical resident. Attendance at Department of Medicine and division conferences is encouraged.

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**M25 Medicine 844 Hematology and Hemostasis (Clinical Elective)**

Activities include work-up of patients at Barnes-Jewish Hospital under the supervision of the hematology fellow and faculty; attendance at daily clinical rounds for 1 - 1.5 hours per day. These are staffed by a senior faculty in the Division of Hematology. In addition to evaluation of patients with hematologic disorders, the student will gain additional analytic skills including: 1. Interpret and integrate laboratory data in the diagnosis of anemia and other cytopenias 2. Review peripheral blood and bone marrow morphology, 3. Analyze laboratory data for the diagnosis of thrombophilia and bleeding 4. Discern the principles of blood banking and pheresis The students will have the opportunity to follow patients with sickle cell disease and understand the treatment of this disorder. The student is expected to attend and participate in the weekly hematology conference.

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**M25 Medicine 847 Bone and Mineral Diseases (Clinical Elective)**

This course is designed to acquaint the student with the clinical, radiological and pathological manifestations and treatment of disorders of bone and mineral metabolism, including osteoporosis, Paget's disease of bone, hyperparathyroidism, osteomalacia, and more rare disorders of bone development and mineral homeostasis. During the pediatric rotations will have exposure to pediatric metabolic bone diseases (heritable or acquired), heritable disorders of connective tissue, skeletal dysplasias and clinical dysmorphology. The student will rotate through the clinics of the Bone Health Program and see patients at the Center for Advanced Medicine, Barnes-Jewish West County Hospital, Center for Advanced Medicine South, and St. Louis Children's Hospital, under the guidance of Division faculty. The student will also learn the principles and best use of bone densitometry in

clinical practice, and participate in the histological assessment of bone biopsies, based on case availability. Medical students will present interesting cases or a pertinent topic related to bone metabolism at the Metabolic Bone Disease Case Conference.

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**M25 Medicine 849 SPOTS: Sun Protection Outreach Teaching by Students (Non-Clinical Elective)**

Students will teach public and private middle school and/or high school students in the St. Louis area about skin cancer and sun protection. SPOTS courses are taught in 60- to 90-minute sessions. The program involves delivering a PowerPoint presentation with a pre-written script, interactive games, a video, and hands-on demonstrations. Students are required to attend two evening training sessions (2.5 hours each) to learn the content of the program, as well as teaching strategies. Training sessions for all enrolled students occur in the fall. A winter training session can be added if needed. Students will teach 4 SPOTS session per week of elective credit. Students participating in the elective need to arrange for their own transportation to teaching sessions. Sessions are typically taught by students in pairs. Learning objectives: 1. Demonstrate knowledge of basic principles of skin cancer, including how to detect skin cancer and how to decrease risk with photoprotection. 2. Effectively communicate this knowledge to children/adolescents.

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**M25 Medicine 853 Inpatient Bone and Joint Infectious Disease Consult (Clinical Elective)**

Study of infectious diseases of the bones and joints, including infections in both native and prosthetic joints. The elective is designed to teach students the fundamentals of evaluating clinical orthopedic infections and formulating plans for workup and therapy. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with the infectious diseases attending and nurse practitioner, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics and antifungal agents. The role of surgical and medical management is discussed, and the students will interact with surgical staff in understanding the risks and outcomes of these common infections.

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**M25 Medicine 854 Transplant Infectious Disease (Clinical Elective)**

Study of infectious diseases in patients who have had bone marrow or solid organ transplants, or who have a hematologic malignancy. The elective is designed to teach students the fundamentals of evaluating clinical infections in these complex and interesting patients and formulating plans for workup and therapy. Students see consultations in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics, antifungal and antiviral agents in this highly immune suppressed population. A wide distribution of infectious diseases is covered including management of neutropenic fever, invasive fungal infections in the transplant population, acute and chronic infections, infection prophylaxis and monitoring and interactions between immunosuppressive agents and antibiotics.

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**M25 Medicine 858 Ambulatory Infectious Disease (Clinical Elective)**

The elective is designed to teach students the fundamentals of evaluating clinical infections in the outpatient setting. Students see patients under the supervision of a faculty member and interact with ID fellows and Internal medicine residents. Students will participate in the care of HIV-infected or otherwise immunosuppressed patients as well as general infectious disease patients. The clinic is the primary provider for many HIV-infected patients, and students will learn the pathogenesis of HIV, become familiar with most antiretroviral medications, and have the opportunity to learn about opportunistic infections and their prophylaxis. They will also have the opportunity to see patients with bone and joint infections, endovascular infections, endemic and opportunistic mycoses, mycobacterial infections, sexually transmitted diseases, and many other infections. Patients seen will have a wide range of acute and chronic infections, and will include indigent and insured patients across a wide range of ages. The students will play an important role in the management of these patients and will present their assessments and plans to the supervising attending. They are expected to write clinic notes, read the literature about their patients, and participate in clinical conferences.

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**M25 Medicine 859 General Inpatient Infectious Disease (Clinical Elective)**

This elective allows students to participate in the management of patients with a wide variety of infections in the inpatient setting. The elective is designed to teach students the fundamentals of evaluating clinical problems in infection and formulating plans for diagnosis and management. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with medical residents and infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds, conferences, and lectures in infectious diseases. They see a wide variety of infectious diseases including community acquired acute and chronic infections, surgical infections, opportunistic infections in HIV-infected patients and other immunocompromised hosts, hospital-acquired infections, and basic infection control practices. They also learn appropriate use of antibiotics, antifungal and antiviral agents, and the principles of antimicrobial stewardship.

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**M25 Medicine 861 Inpatient Oncology Consult Service (Clinical Elective)**

Medical Oncology is a complex subspecialty that is undergoing a rapid evolution as a result of new systemic treatment approaches that stem from biological insights into the nature of cancer. During the course of the elective, medical students will be able to interact with attending physicians and patients for bedside teaching and attend tumor boards and lectures focused on the care of patients with solid tumors. The student will function as a member of the consult service team. Duties will include performing initial consultations and follow-up care under the supervision of an Oncology attending and an Oncology fellow. At the end of the rotation, the students will appreciate the principles of our approach to cancer patients and should have gained insights into the evaluation and management of patients with newly diagnosed malignancies. The role of surgery, radiation, and systemic treatment will also be an important theme, as well as the conduct of clinical research in this patient population. Students will also learn to care for hospitalized patients suffering from complications from their cancer or from toxicities due to treatments. Oncologic emergencies will be covered. Issues such as palliative care treatment options and end-of-life decision making will be explored as well.

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**M25 Medicine 869 Hospice and Palliative Medicine (Clinical Elective)**

The Palliative Medicine elective will focus on the care of patients with life-threatening or debilitating illness throughout the course of their care. Skills in symptom management, communication, and interdisciplinary team-based care will be the focus. Students will spend the majority of their time on the BJH Palliative Care Service. Based on the individual student's interest, there may also be opportunities to work with the BJC Hospice Team and the St. Louis Children's Hospital Pediatric Advance Care Team. Students wishing to work with either team should contact the Course Director and Administrative Contact, as well as the Instructors of the appropriate team, with as much advance notice as possible as trainee spots are very limited for both. While in the hospital, students will be responsible for seeing patients upon initial assessment as well as delivering follow-up care with the team. Patients will be seen for both end-of-life care as well as symptom management. Students will learn to assess and treat refractory symptoms and participate in complicated advanced care planning. Students will attend interdisciplinary team meetings, and may participate in conversations about goals of care and coping with bad news. They may also make home visits with hospice care providers, if desired. Emphasis will be placed on observing and understanding the psychosocial and spiritual needs of the patients, as well as the impact of the burden on caregivers. In addition, students will be expected to participate in bi-weekly presentations/group discussions on selected aspects of Palliative Medicine with the BJH Palliative Care team. Students will also be required to give a 20-minute presentation to the BJH Palliative Care team at the end of their rotation.

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**M25 Medicine 870 Endocrinology, Diabetes, and Metabolism (Clinical Elective)**

In general, the rotation will be divided across general endocrinology and diabetes consultative services, as well as outpatient clinics. Students taking this elective will perform consultations with fellows and faculty on the inpatient services at Barnes-Jewish Hospital and will see patients with endocrine and metabolic diseases in outpatient faculty clinics. They will present cases daily on teaching rounds, and participate in case conferences and seminars on a weekly basis. Caring for patients with diabetes and gaining experience with the latest glycemic control technologies (continuous glucose monitoring, pump therapy, etc.) are important parts of the rotation, as is interacting with patients presenting for transgender care as well as patients with thyroid, pituitary, adrenal, gonadal, bone, and lipid disorders. A variety of outpatient clinics are offered in the division and students should speak with the fellows and faculty members to customize the learning experience to match their career goals. At the end of the rotation, it is expected that students will have the ability to initiate inpatient and outpatient management of diabetes including insulin dosing and glucose monitoring, as well as evaluate and treat a variety of endocrine disorders.

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**M25 Medicine 871 Outpatient Oncology (Clinical Elective)**

Students will gain experience in the initial treatment of newly-diagnosed malignancies and the outpatient management of oncology patients. Participation in multidisciplinary tumor conferences will stress a combined-modality approach to management, incorporating chemotherapy, radiotherapy and surgery. Students will see patients with a variety of malignancies, including lymphoma, myeloma, and tumors of the lung, breast, and colon. Management of hypercalcemia and other paraneoplastic syndromes, as well as cancer pain management, will be covered. Students will have the opportunity to see how most oncologists spend 90% of their workday. They will observe different styles that oncologists use when presenting news about prognosis, treatment options, and other information to patients while they also learn about the molecular basis for cancer, the mechanisms of action for our therapies (particularly the newer agents which target specific molecular abnormalities), and the key studies that justify the

use of therapies (e.g. randomized studies showing that after surgery, chemotherapy will reduce the risk of recurrence from a particular cancer with a particular regimen). By spending time with clinicians, students will learn how to identify hereditary syndromes, use drugs for symptom relief, and also learn how radiographic and laboratory tests allow oncologists to care for patients.

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**M25 Medicine 879 Pulmonary Clinic for the Underserved (Clinical Elective)**

Clinical setting: Outpatient Clinic dedicated to providing pulmonary specialty care to patients who are predominantly uninsured or who rely upon public assistance such as Medicaid. Student role: Students independently interview and examine patients and present findings to the attending, tests and imaging are reviewed, and provider and attending develop plan. Common problems/diseases: Asthma, COPD, sarcoidosis, lung cancer, and obstructive sleep apnea are commonly seen. Also, patients are referred for evaluation of abnormal x-rays and for symptoms such as dyspnea. Primary learning objectives: - to understand and practice important history and exam skills in pulmonary medicine: symptoms, smoking history, work and environmental exposures, and important pulmonary physical exam findings. - to understand the basics of pulmonary function tests, chest imaging, and methods for tissue sampling. - to understand the basis of treatment of common pulmonary disorders. - to understand some of the psychosocial barriers to care for this population. Conferences: There is no conference associated with this clinic, but students may attend the usual Thursday morning Medicine Grand Rounds at 8:00 am and the Pulmonary Grand Rounds at 11:00 am if the subject matter is appropriate.

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**M25 Medicine 880 Pulmonary Medicine (Clinical Elective)**

Students will acquire skills in the evaluation and management of patients with pulmonary diseases and in the interpretation of pulmonary function tests. They will gain experience in outpatient Lung Center and attend regular pulmonary and critical care medicine conferences.

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**M25 Medicine 884 Bone Marrow Transplantation and Stem Cell Biology (Clinical Elective)**

This elective is designed to introduce students to the general inpatient, intensive care, and outpatient management of patients with multiple hematologic malignancies including leukemia, lymphoma, marrow failure states and myeloma. These patients will be treated with chemotherapy, targeted therapies and cellular immunotherapies including chimeric receptor T cells (CART), natural killer cells, bispecific antibody treatments and stem cell transplant (both autologous and allogeneic). As the primary team, the BMT service is responsible for diagnosing and treating all medical problems including many critical care issues that may occur in these patients. These complex patients are often severely immunocompromised, coagulopathic, and at high-risk of multi-organ complications from both their disease and their therapy. Students work closely with residents, fellows, and faculty to develop treatment plans for patients. Students participate in daily rounds discussing general inpatient and intensive care BMT patients and attend outpatient clinic 1 day/wk to see how BMT physicians approach patients faced with difficult decisions to make regarding their care. In addition to multiple weekly conferences, students also attend daily teaching rounds led by faculty to learn the basic science of hematopoiesis, the genomics of leukemia, stem cell biology, gene therapy and cell therapy, transplantation immunology, graft vs host disease and infectious diseases seen in these immunocompromised patients. The average medical student will contribute to the care of inpatients (30-40 patients/day) and will be directly involved in the assessment and care of selected outpatients as well.

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**M25 Medicine 888 Outpatient Hematology (Clinical Elective)**

Students will gain experience in the diagnostic workup of hematological conditions like low or high blood counts, thrombosis, bleeding, and paraproteinemia. They will get familiar with treatment strategies for a wide variety of benign hematological conditions (e.g. thrombotic microangiopathies, sickle cell disease, thrombosis, and hemophilias) and malignant hematological disorders (e.g. myeloproliferative neoplasms and myelodysplastic syndromes). Students will also learn about the role of procedures like blood/blood fraction exchange (apheresis) and bone marrow biopsy. Participation in hematology case conference will provide insight into approaching a case with evidence-based management strategies and hematology grand rounds will offer formal learning experience in hematology from experts in the area. Students will observe hematologists going through a typical workday and managing difficult conversations (e.g. breaking bad news). They will learn about gaps in the field of hematology, which generate rationale for future research.

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**M25 Medicine 890 Clinical Nephrology (Clinical Elective)**

Students rotate through inpatient and outpatient experiences to gain exposure to all facets of nephrology. They will spend the majority of their time on an inpatient consult service, gaining exposure to acute and chronic renal failure, glomerulonephritis, and electrolyte disorders. During this time, they will serve as a fully integrated member of the consult team, evaluating underlying causes of kidney disease, performing diagnostic procedures, formulating management plans, and engaging in decision-making discussions with primary services and families. In addition, students will have the opportunity to experience ICU nephrology, transplant nephrology, the various CKD clinics, and all modalities of dialysis, including in-center, home, and peritoneal dialysis.

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**M25 Medicine 890A Kidney Transplantation (Clinical Elective)**

Students participating in this elective will: · gain exposure to end-stage renal disease and the treatment options, · examine kidney transplantation as the most valuable option, · learn about immunosuppression, and · gain exposure to infectious diseases like CMV, BK, and adenovirus that are commonly seen in patients that have had a kidney transplant (and not often seen otherwise).

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**M25 Medicine 893 Adult Allergy and Clinical Immunology (Clinical Elective)**

Students will participate in the outpatient Allergy Clinics located in Barnes-Jewish Hospital Center for Advanced Medicine, Barnes-Jewish West County, and the Center for Advanced Medicine South County. Students will participate in allergy skin testing, pulmonary function testing, and drug desensitization. They will have the opportunity to see patients with allergic rhinitis, asthma, hives, food allergy, immunodeficiency, eosinophilic esophagitis, hereditary angioedema, mastocytosis, contact allergic dermatitis, eczema, and more. They can attend allergy conferences on Thursday morning. Students have the option to follow a fellow and see inpatient consults at Barnes-Jewish Hospital.

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**M25 Medicine 897 Complex Primary Care (ComPACT)**

ComPACT is an intensive primary care clinic. We work with veterans with multiple medical comorbidities and multiple hospitalizations. Frequently, they also have many social barriers to health care. Our goals are to reduce admissions and improve overall health and wellness. Students will be responsible for performing histories and physicals in the outpatient setting. In addition, when appropriate, students will round on hospitalized ComPACT patients with Drs. Rumora and McCarthy. Patient interactions will be face-to-face and electronic (phone, video). Students will gain experience with balancing the demands of competing medical issues. Many of our vets have heart failure, diabetes, kidney disease, COPD, and other conditions. Students



will also gain experience in identifying and working to mitigate social barriers to health. We have weekly staff "huddles" that we encourage students to attend. We also have a journal club approximately monthly. If this occurs during the student's time with us, we may ask them to present an appropriate paper.

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#### **M25 Medicine 910 Internal Medicine Advanced Clinical Rotation (ACR)**

This rotation is designed to imitate intern year as much as possible while working with adult hospitalized patients. It is a four-week rotation; three of those weeks will be on a daytime rotation and one of those weeks will be a night float rotation. You will be expected to put in discharge and admission orders, write notes on your patients, communicate with ancillary staff and consultants about patient care, and communicate updates to patients' families. During the day you will be expected to take care of 4-6 patients. At night, you will be expected to provide cross-cover for existing patients and admit new patients. This rotation will take place at the John Cochran VA Hospital and at Barnes-Jewish Hospital on the medicine firm service, cardiology firm service or hospitalist service. Hospitalist and medicine firm see patients admitted for a medical reason. Cardiology firm takes care of patients admitted primarily for a cardiac reason, but these patients often have many medical comorbidities reflective of a general medicine population. The team structure of cardiology and medicine firm services include one attending, one resident and two interns. The team structure of hospitalist will include working more one-on-one with a hospitalist attending. The John Cochran VA Hospital sees more common medical illnesses but is still a referral center. The VA teams consist of one attending, one resident, and one intern. Credit 140 units.

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#### **M25 Medicine 915 Medicine Intensive Care Advanced Clinical Rotation (ACR)**

The Medical Intensive Care Unit ACR is designed to introduce medical students to critical care medicine. The rotation will provide the opportunity to care for critically ill medicine patients presenting with a wide variety of diagnoses including shock, respiratory failure, metabolic derangements, and acute gastrointestinal hemorrhage, amongst others. Students will be expected to learn the basic pathophysiology and treatment approaches of these common MICU disease processes. The MICU ACR will take place in the 8300 and 8400 Medical Intensive Care Units, and the medical students will work on a team comprised of internal medicine residents, pulmonary and critical care fellows, and attending physicians. The rotation will consist of three weeks of days and one week of nights. While on days, the students on the MICU ACR will be expected to follow 3-4 ICU patients, present these patients on rounds, and develop management plans. While on nights, the students will join the residents and fellows in cross covering established patients and admitting new patients to present on rounds the next morning. The management of critically ill patients is an essential skill for an intern in a variety of medical specialties, and the pathology seen in the Medical ICU will allow for students to gain experience in this environment prior to starting their residency. Credit 140 units.

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## **M27 Emergency Medicine**

Visit online course listings to view offerings for M27 Emergency Medicine (<https://courses.wustl.edu/CourseInfo.aspx?sch=M&dept=M27>).

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#### **M27 EMED 800 Reading Elective - Emergency Medicine**

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#### **M27 EMED 802 Emergency Medicine (Clinical Elective)**

This four week elective will encompass all aspects of Emergency Medicine, with clinical time spent in the main urban trauma center as well as in a community setting. In addition, to seeing a wide range of pathology at the two sites, students will be given the opportunity for a 1:1 teaching shift, toxicology shift, and nursing shift, as well as a shift with ancillary departments such as social work and respiratory therapy. Students will be expected to attend grand rounds and teaching lectures as well as team-based learning and simulation sessions. Students will work in the trauma/critical care area and general medicine areas of the ED, and are expected to see patients independently, present to the team, perform basic procedures with guidance, call consults, and sign out patients to the oncoming team.

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#### **M27 EMED 810 Medical Toxicology (Clinical Elective)**

This rotation offers practical experience in the evaluation and management of the acutely ill, poisoned, or intoxicated patient. Students will function as subinterns and either report to the senior resident, fellow, or directly to the toxicology attending. Students will gain familiarity and experience evaluating and treating patients who have intentionally and unintentionally overdosed on medications or illicit drugs or have substance use disorders, been envenomated (such as by spiders, snakes, or other reptiles), or been exposed to toxic substances or chemicals. Students will also gain experience in administering antidotes and learning to properly decontaminate someone after an ingestion or exposure. There are no overnight or weekend shifts. While not required, students are welcome to come in off hours to see new consults and enhance their experience and learning. Daily activities start in the morning and are generally concluded by the early afternoon. A core content of lectures will be provided. The students will also be assigned small projects during their rotation that will enhance their experience particularly in environmental and occupational toxicology. Students will also be asked to complete SAMHSA approved training which will allow them to apply for DEA buprenorphine waivers upon obtaining their permanent medical license. Opportunities to increase their experience with occupational toxicology and addiction medicine also exist during this rotation; students will be able to rotate in the outpatient toxicology and addiction medicine clinic. Students will also have the opportunity to go to the Missouri Poison Center. Students desiring a letter of recommendation from one of the toxicology attendings (who are also Emergency Medicine attendings) or interested in Emergency Medicine or Medical Toxicology should take this elective. Also, students considering other specialties such as Pediatrics, Psychiatry, Neurology, or Internal Medicine should consider this rotation as they will be responsible for evaluating these patients as part of their inpatient or outpatient practice. Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off should be requested from the Course Coordinator at least two weeks prior to the beginning of the rotation for scheduling purposes.

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#### **M27 EMED 820 Emergency Ultrasound (Clinical Elective)**

Point-of-care ultrasound has become an integral diagnostic and procedural tool for nearly every clinical specialty. Ultrasound examination at the bedside is noninvasive, painless, and repeatable, unlike many other common diagnostic tests. However, like all procedures, developing ultrasound skills takes a significant amount of practice and experience. This rotation will focus on clinical ultrasound image acquisition and interpretation at the bedside. Students will participate in the performance of bedside ultrasound of patients in the Emergency Department. Common applications of emergency ultrasound include the FAST exam, pelvic ultrasound, abdominal aortic aneurysm (AAA), vascular access, renal, ocular, cardiac ultrasound, and DVT. Students will be involved in direct patient care during this rotation as part of the ultrasound team in the Emergency Department. In general, the student will be in the Emergency Department during weekdays to perform these exams. In addition, the student will meet

with the elective instructor approximately once per week to review images or for direct hands-on instruction. At the end of the rotation, the student should be able to obtain images for basic point-of-care ultrasound examinations and to interpret those images for diagnostic purposes. Students may also have opportunity to practice ultrasound-guided procedures during the rotation.

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**M27 EMED 830 Emergency Medical Services (Clinical Elective)**

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**M27 EMED 910 Emergency Medicine Advanced Clinical Rotation (ACR)**

This rotation offers practical experience in the evaluation and management of acutely sick and injured patients. Students will function as subinterns, initially evaluating their assigned patients, and developing a plan for further diagnostic studies and therapy. They will report to a senior level resident or an attending physician. The student can expect the opportunity to perform or assist with a wide variety of procedural skills such as suturing, splinting, peripheral and central venous access, ultrasound, and cardiopulmonary resuscitation. Shifts will be eight hours and students will rotate between day, evening, and night shifts (including weekend shifts) to gain maximum exposure to all types of emergencies. The majority of shifts will occur at Barnes-Jewish Hospital; however, additional shifts may be scheduled at St Louis Children's Hospital, Barnes-Jewish West County Hospital and Missouri Baptist hospital, community teaching hospitals approximately 14 miles away. If the student does not have transportation, other arrangements can be made. Students will also be expected to attend weekly grand rounds and student lectures covering aspects of the core content of Emergency Medicine as well as attend a departmental journal club and student simulation session. Students will gain an understanding of other disciplines closely associated with Emergency Medicine by doing rotations with either social work, nursing, or respiratory therapy. Students will also gain knowledge of the triage system during their time in the department. If schedules allow, students interested in EM will be doing 1:1 shifts with a single attending during their rotation as well as having a teaching shift with the education resident and fellow. Students desiring a Standard Letter of Evaluation (SLOE) should take the Emergency Medicine ACR. Students will be scheduled for required weekend and overnight shifts and changes will not be allowed to the schedule unless approved prior to the start of the rotation by the course coordinator. Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off during the rest of the year will conform to university policy. Days off should be requested from the Course Coordinator at least two weeks prior to the beginning of the rotation for scheduling purposes.

Credit 140 units.

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