

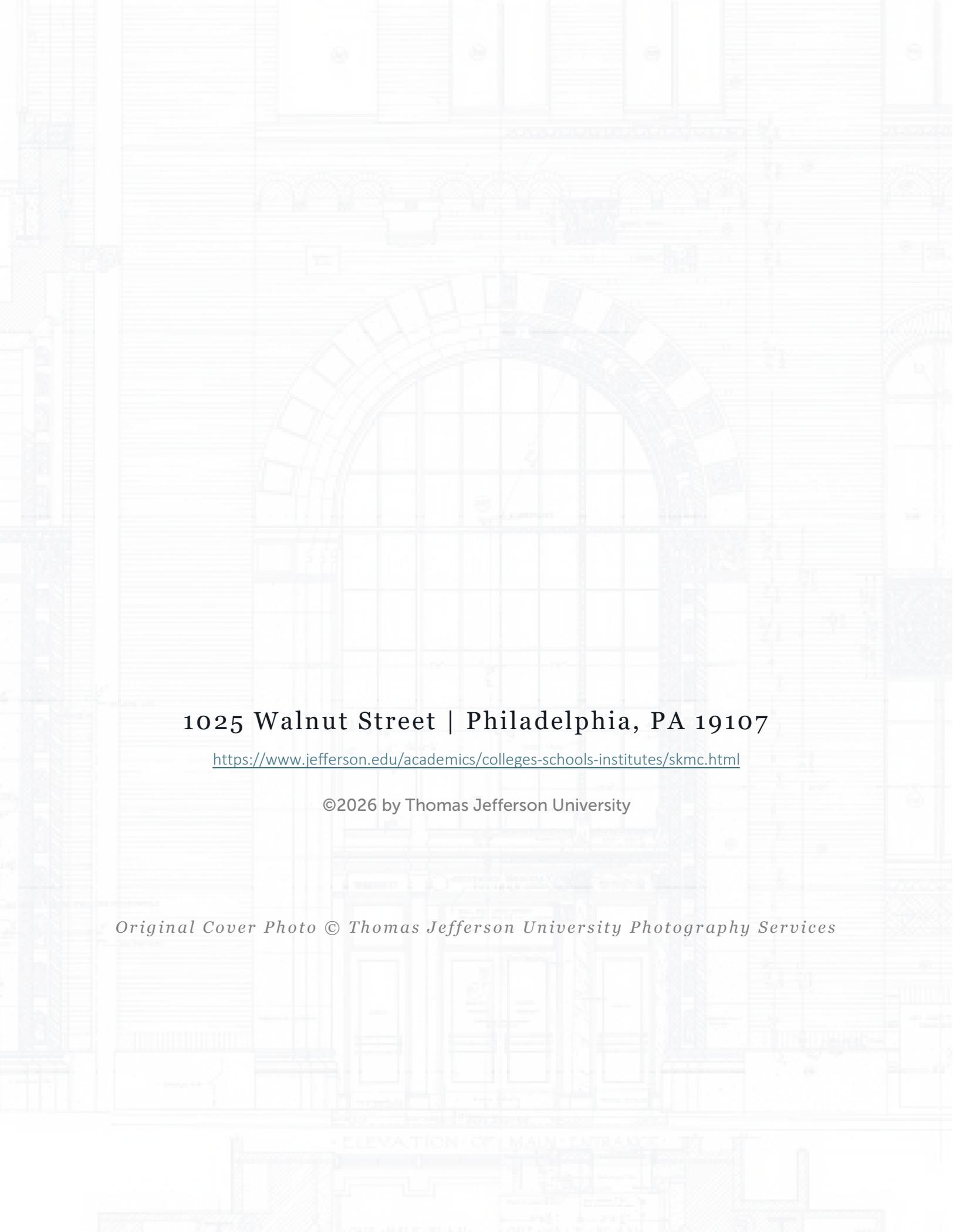


Sidney Kimmel Medical College Thomas Jefferson University

Course Catalog
2026 – 2027



HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

The background of the page is a detailed architectural drawing of a building facade. The central feature is a large, semi-circular archway containing a multi-paned window. Above the arch, there is a row of smaller, arched windows. The drawing uses fine lines and shading to represent the building's structure and materials. The text is overlaid on this drawing.

1025 Walnut Street | Philadelphia, PA 19107

<https://www.jefferson.edu/academics/colleges-schools-institutes/skmc.html>

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Contents

The content of this document is provided for the information of the student. It is accurate at the time of printing but is subject to change from time to time as deemed appropriate by Sidney Kimmel Medical College in order to fulfill its role and mission or to accommodate circumstances beyond its control. Any such changes may be implemented without prior notice and without obligation and, unless specified otherwise, are effective when made. The latest version of the Course Catalog is available on the SKMC website.

Accreditation

Sidney Kimmel Medical College is accredited by the Liaison Committee on Medical Education (LCME) for its medical education program leading to the Doctor of Medicine (MD) degree.

In addition, the Continuing Medical Education program is accredited by the Accreditation Council for Continuing Medical Education; and the Residency programs are accredited by the Accreditation Council for Graduate Medical Education. Thomas Jefferson University is a member of the Middle States Association of Colleges and Schools.

Credit Hours

The Liaison Committee on Medical Education (LCME) defines the program length by weeks of instruction. The LCME requires at least 130 instructional weeks of medical education leading to the MD degree. The SKMC program length exceeds 130 instructional weeks as outlined by the Academic calendars and credit requirements specific to each medical school class year published in the SKMC Student Handbook as well as on the Office of the Registrar's website. SKMC program length is defined by the LCME requirements with calculation of equivalency to credit hours as follows:

- a. The curriculum is a full-time, four-year program consisting of a minimum of 130 weeks of instruction with a total of 88 semester credit hours (65 weeks) of Foundational Sciences Courses, 91 semester credit hours of Clinical Sciences Courses (65 weeks) and 21 semester credits of electives (28 weeks).
- b. For didactic courses, credit is awarded based on a minimum of 2 hours of class preparation time and independent study for each direct contact hour with faculty. For Phase 2 core clinical sciences courses students earn 1.5 credit hours for each week of clinical rotations. For Phase 3 core clinical science rotations, clinical science electives and research electives, students earn 1.5 credit hours for each 2 weeks of these courses. The student fulfills credit hour requirements through a combination of scheduled clinical time, preparation of cases, and other course requirements such as presentations or papers.

Phase 1 Courses

Phase 1 Director: Urvashi Vaid, MD

Phase 1 Associate Director: Susan Truong, MD

Year 1

JMD 101 Foundations of Medicine I

Credits: 24

Foundations of Medicine I is the first part of an integrated 4 course sequence in Phase 1 that encompasses basic, clinical and health system sciences. Students will be introduced to core concepts in blocks organized by organ system. Each week features a case explored through active learning in small groups. The schedule incorporates a variety of learning modalities such as labs, clinical skills sessions, patient sessions, team-based learning activities and lectures to complement and enhance student learning. Foundations of Medicine expects from students rigorous independent study and critical thinking to prepare them for the clinical problems they will encounter. The blocks covered in this course are Introduction to the Study of Medicine, Host Defense and Blood, and Cardiovascular.

JMD 102 Foundations of Medicine II

Credits: 22

A continuation of JMD 101, the Foundations of Medicine II course is an integrated course that encompasses basic, clinical and health system sciences. Students will be introduced to core concepts in blocks organized by organ system. Each week features a case explored through active learning in small groups. The schedule incorporates a variety of learning modalities such as labs, clinical skills sessions, patient sessions, team-based learning activities and lectures to complement and enhance student learning. Foundations of Medicine expects from students rigorous independent study and critical thinking to prepare them for the clinical problems they will encounter. The blocks in this course cover the Pulmonary, Renal, and Gastrointestinal/Liver systems.

JMD 150 Scholarly Inquiry

Credits: 3

Scholarly Inquiry aims to provide students with a wide range of skills and experiences that they need to become critical consumers and producers of healthcare knowledge. Students select from 7 tracks (Clinical and Translational Research, Design, Digital Health, Health Policy and Systems, Humanities, Medical Education, and Population Health Research), receive training in a wide range of research domains and topics, and begin scholarly projects under the supervision of faculty mentors and project advisors. Educational modalities include lectures, expert panels, small-group sessions, workshops, training, online modules, mentor meetings, and independent work. In their first year, students take common and track-based curricula, acquiring knowledge of the scientific process and scholarly inquiry skills, allowing them to propose and initiate work on a scholarly project.

JMD 151 Clinical Experience

Credits: 2

The Clinical Experience course provides students with an understanding of the broader context of health through interaction with patients, families, clinical staff and community-based service providers. Beginning in September, students will be assigned clinical sites to learn about healthcare delivery and inter-professional teamwork. Students will receive training and tools to act as health navigators. Under the supervision of a community health worker and in collaboration with clinic staff, students will learn to address the underlying social and environmental factors that impact health. During the Clinical Experience sessions, students will participate in case-based education, screen patients for social determinants of health, lead efforts to link social needs to community resources, and engage in end-of-shift reflections.

JMD 152 & JMD 153 The Humanities Selectives

Credits: 1 credit each

These courses strengthen key skills of clinical care through engagement in the arts and humanities. These skills include close observation, listening, emotional awareness and empathy, self-care, comfort with ambiguity and making mistakes, team and interpersonal communication, understanding the perspectives of patients and colleagues, and understanding social contexts of health. The Humanities Selectives are immersive, arts-based experiences and participation-oriented seminars that promote support and bonding between classmates and offer creative respite within medical school. In many cases, these courses are developed by professional artists in collaboration with medical educators and reflect unique syntheses of medicine and the humanities. Students must fulfill 2 credit hours of Humanities Selectives during Phase 1. Students may complete JMD 152 in the Fall and/or JMD 153 in the Spring for 1 credit each. Students choosing to complete only one Humanities Selective in Year 1 (JMD 152 or JMD 153, each for 1 credit) will be expected to complete JMD 252 for 1 credit the following year.

Year 2

JMD 203 Foundations of Medicine III

Credits: 17

A continuation of JMD 102, the Foundations of Medicine III course is an integrated course that encompasses basic, clinical and health system sciences. Students will be introduced to core concepts in the Neurological System and Psychiatry. Each week features a case explored through active learning in small groups. The schedule incorporates a variety of learning modalities such as labs, clinical skills sessions, patient sessions, team-based learning activities and lectures to complement and enhance student learning. Foundations of Medicine expect from students rigorous independent study and critical thinking to prepare them for the clinical problems they will encounter.

JMD 204 Foundations of Medicine IV

Credits: 15

A continuation of JMD 203, the Foundations of Medicine IV course is an integrated course that encompasses basic, clinical and health system sciences. Students will be introduced to core concepts

in blocks organized by organ system. Each week features a case explored through active learning in small groups. The schedule incorporates a variety of learning modalities such as labs, clinical skills sessions, patient sessions, team-based learning activities and lectures to complement and enhance student learning. Foundations of Medicine expect from students rigorous independent study and critical thinking to prepare them for the clinical problems they will encounter. The blocks in this course cover Endocrine, Urology, Reproduction, and Musculoskeletal, Dermatology, and Rheumatology.

JMD 250 Scholarly Inquiry

Credits: 3

Scholarly Inquiry aims to provide students with a wide range of skills and experiences that they need to become critical consumers and producers of healthcare knowledge. Students continue to take common and track-based curricula to further their scholarly inquiry development. Educational modalities include lectures, expert panels, small-group sessions, workshops, training, online modules, mentor meetings, and independent work. Students complete their scholarly project and gain experience presenting their work in multiple formats (poster, oral presentation, and abstract).

JMD 252 The Humanities Selectives

Credits: 1

This course strengthens key skills of clinical care through engagement in the arts and humanities. These skills include close observation, listening, emotional awareness and empathy, self-care, comfort with ambiguity and making mistakes, team and interpersonal communication, understanding the perspectives of patients and colleagues, and understanding social contexts of health. The Humanities Selectives are immersive, arts-based experiences and participation-oriented seminars that promote support and bonding between classmates and offer creative respite within medical school. In many cases, these courses are developed by professional artists in collaboration with medical educators and reflect unique syntheses of medicine and the humanities. JMD 252 is a continuation of JMD 152 or JMD 153 for students who need 1 additional credit and is not mandatory for students who have completed 2 credits in Year 1 with successful completion of JMD 152 and JMD 153.

Phase 2 Courses

Phase 2 Director: Andres Fernandez, MD, MEd

During Phase 2, students are exposed to core clinical specialties of medicine. They will learn to evaluate patients with a variety of conditions across age, gender, and psychosocial spectra. Students will partake in team-based patient care and learn to interpret data, build differential diagnoses, and use literature to guide treatment. Phase 2 starts with a 1-week Transition to Clerkships course that will prepare students for the immersive experience the core clerkships offer. During Phase 2, students will rotate through four 12-week blocks of paired clerkships: Family Medicine with Psychiatry, Pediatrics with Obstetrics and Gynecology, General Surgery and subspecialties with Emergency Medicine, and Internal Medicine with Neurology. Every 6 weeks, all students will return to main campus to participate in a variety of interdisciplinary activities that are a part of the Dimensions of Clinical Medicine course. A summative Objective Structured Clinical Examination (OSCE) is administered at the end of Phase 2 to assess skills students acquired during core clerkships. Students are also required to take Scholarly Inquiry JMD 350 during this phase. During core clerkships and surgical selectives, students will have the opportunity to work in a variety of healthcare settings and locations, including Thomas Jefferson University Hospital and its academic affiliates. Additional information on each academic affiliate is available on the [Clinical Site Information](#) Canvas page.

JMD 300 Transition to Clerkships

Director: Andres Fernandez, MD, MEd

Credits: 1

This mandatory 1-week course kicks off Phase 2 with essential skills training for students starting clinical clerkships. Sessions focus on expectations, success strategies, and other skills to help students get the most of their clinical learning experiences. Small group workshops focus on oral presentation and note writing.

JMD 301 Dimensions of Clinical Medicine

Director: Andres Fernandez, MD, MEd

Credits: 1

The goal of this course is to expose students to various interdisciplinary topics in the context of clinical medicine and reflect on complexities and many influences that affect the practice of medicine. This course consists of 7 curricular sessions that run every 6 weeks during Phase 2 and includes small group reflection sessions and observed patient encounters. Students will also have sessions that focus on the residency selection and application process. The End-of-Phase 2 OSCE is the final assessment for this course.

JMD 350 Scholarly Inquiry

Directors: Karen Bussard, MS, PhD & Michael Pasirstein, MD, MPH

Credits: 1

Scholarly Inquiry aims to provide students with a wide range of skills and experiences that they need to become critical consumers and producers of healthcare knowledge. In this phase-long course, students begin their transition to independence in scholarly work. Based on real-world observations their individual clinical rotations, students propose a research project with continued, but more limited, track and mentor support. Students also learn, as part of the continued common and track-based curricula, to summarize their work and present themselves as scholars in written form (e.g. professional development documentation).

Family Medicine & Psychiatry Block

During this 12-week block, students will complete a 6-week Family Medicine Clerkship and a 6-week Psychiatry Clerkship.

FMED 350 Family Medicine Clerkship

Director: Robert McClowry, MD

Credits: 9

Family Medicine is a 6-week clerkship during which students will focus on the diagnosis and management of acute and chronic problems in the outpatient setting, health maintenance, preventive medicine, psychosocial and life-stage contexts, time management, and cost-effective delivery of care.

PSYH 350 Psychiatry Clerkship

Directors: Mitchell Cohen, MD & Johanna Beck, MD

Credits: 9

This core clinical experience prepares future physicians to accurately assess, recognize, and plan treatment for a variety of psychiatric disorders. Additionally, students will gain confidence and comfortability in treating patients with mental illness. Students are considered an integral part of the treatment team and will evaluate and follow patients under faculty supervision, observing and participating in all aspects of patient care. Through exposure and guidance, students will learn skills in developing therapeutic relationships with patients while establishing appropriate treatment boundaries. Site placements include possible experiences in consultation liaison psychiatry, adult & geriatric inpatient psychiatry, addiction psychiatry, and child and adolescent psychiatry.

Internal Medicine & Neurology Block

During this 12-week block, students will complete two 4-week blocks of Internal Medicine Clerkship (generally, 4 weeks at Thomas Jefferson University Hospital and 4 weeks at an academic affiliate hospital), and a 4-week Neurology Clerkship. Two 4-week blocks of Internal Medicine need not be completed contiguously and may have the Neurology clerkship scheduled between them.

MED 350 Internal Medicine Clerkship

Director: Jillian Zavodnick, MD

Credits: 12

During Internal Medicine clerkship, students will acquire knowledge and skills required to care for adult patients in the hospital environment. This is an 8-week experience; students spend 4 weeks at the Thomas Jefferson University Hospital, and 4 weeks at one of our academic affiliates, allowing for exposure to a diverse group of patients. Clinical experiences and didactics focus on pathophysiology, diagnosis, and management of disease processes commonly seen in internal medicine and requiring hospitalization. Additional projects will help hone procedural skills, focus on evidence-based and cost-conscious care, and apply literature review to patient care. Students partake in team-based care of patients and learn the roles and responsibilities of various healthcare professionals.

NEUR 350 Neurology Clerkship

Director: Courtney Seebadri-White, MD

Credits: 6

Neurology is a 4-week clerkship which provides a foundational experience in the field of Adult Neurology. Students will learn about various neurologic conditions, including pathophysiology, clinical presentation, diagnosis, and treatment. Learning will specifically focus on ability to gather a detailed neurological history performing a neurological examination.

Obstetrics/Gynecology & Pediatrics Block

During this 12-week block, students will complete a 6-week Obstetrics and Gynecology Clerkship and a 6-week Pediatrics Clerkship.

OBGY 350 Obstetrics and Gynecology Clerkship

Director: Katherine Lackritz, MD

Credits: 9

On Labor and Delivery, students will follow patients through their labor courses and deliveries. While being supervised, they will assist with assessing the patients and assisting with their care. On the Gynecology rotation, the students will assist in the operating room, perform consultations and follow patients post-operatively. In the outpatient clinic, students will learn about primary care of women as well as prenatal care. Students will learn to care for patients during adolescence, childbearing, and menopause. They will become comfortable counseling patients on contraception options and pregnancy options.

PED 350 Pediatrics Clerkship

Director: Catherine Soprano, MD, FAAP

Credits: 9

Students will learn and practice how to approach patients of different ages from birth through adolescence. They are exposed to common clinical problems in the inpatient, outpatient and newborn nursery settings, which ensures that every student sees a balanced patient mix. Physical

examination skills are reinforced using Pediatric Standardized Patients at orientation. Additional projects focus on practice innovation. Personal wellness plans are supported.

Surgery, Surgical Subspecialty, & Emergency Medicine Block

During this block, students will complete a 6-week General Surgery Clerkship, a 3-week Surgical Subspecialty rotation (Anesthesia, Neurosurgery, Orthopedics, Otolaryngology, Ophthalmology, or Urology), and a 3-week Emergency Medicine Clerkship.

EMRG 350 Emergency Medicine Clerkship

Directors: Xiao Zhang, MD & Jason Gonzalez, MD

Credits: 4.5

Emergency Medicine is a 3-week clerkship during which students will work closely with faculty and residents in the Emergency Department, focusing on diagnosis and management of patients who present with a variety of acute conditions. Didactic lectures, clinical skill laboratories, and patient simulations supplement clinical learning. Students will also get the opportunity participate in the resident conferences.

SURG 350 Surgery Clerkship

Directors: Renee Tholey, MD & Tyler Grenda, MD

Credits: 9

During the Surgery Clerkship, students will assimilate the knowledge, skills, and attitudes concerning surgery that are expected of every physician. Students assume responsibility of the preoperative evaluation of surgical patients and their postoperative care, as well as participate in the surgical procedures.

Surgical Selectives

ANES 352 Anesthesia Selective

Director: Natasha Sinai-Hede, MD

Credits: 4.5

Students will learn aspects of anesthesiology that should be understood by all practicing physicians. Preoperative evaluation, choice of appropriate anesthetic techniques, and postanesthetic problems that may develop are covered. Operating room experience demonstrates mask ventilation, the use of airway adjuncts, and endotracheal intubation.

NSRG 352 Neurosurgery Selective

Director: Stavropoula Tjoumakaris, MD

Credits: 4.5

This selective introduces the student to the field of Neurological Surgery and the scope of neurological diseases, with emphasis is on cerebrovascular, neuro-oncologic and spinal diseases, and the principles underlying their management. Students will have exposure to outpatients, inpatients and operating room experience, and will also have the opportunity to participate in the department's conference and lecture series.

OPHT 352 Ophthalmology Selective**Director: Bruce Markovitz, MD****Credits: 4.5**

Students rotate through general ophthalmology clinic, emergency department, as well as subspecialty clinics and operating rooms to get exposure to a broad spectrum of ophthalmologic conditions. Didactics cover basic ophthalmologic exam, slit lamp use, and a variety of other topics in ophthalmology with an emphasis on ocular abnormalities associated with systemic diseases.

ORTH 352 Orthopedics Selective**Director: Alan Hilibrand, MD****Credits: 4.5**

This course introduces the students to the scope of problems affecting the musculoskeletal system and the principles underlying their management. Students will work under the direction of orthopedic surgeons who will guide them through a series of inpatient, operative, and outpatient experiences reflective of the musculoskeletal problems seen and managed by orthopedists.

OTOL 352 Otolaryngology Selective**Director: Meghan Crippen, MD****Credits: 4.5**

Clinical experiences in otolaryngology are provided in the office, hospital and operating room. Students will work with residents and faculty and participate in care of patients and morning rounds, rotating with attendings during their office hours, and spend time observing and participating in surgical cases. A didactic series will cover the important aspects of otolaryngology relevant to all facets of medicine.

UROL 352 Urology Selective**Director: Costas Lallas, MD****Credits: 4.5**

This selective introduces students to the diagnosis and treatment of urologic diseases. Responsibilities include inpatient and outpatient evaluation of patients, conferences, and operating room participation. A didactic series will provide an excellent introductory exposure to modern urology.

Phase 3 Courses

Phase 3 Director: Shruti Chandra, MD, MEHP

During Phase 3, you will have the opportunity to work on more advanced core competencies as well as develop knowledge and skills specific to your career pathway. With the successful completion of Phase 3, you will be well on your way to transitioning to your new role as an intern.

Phase 3 requirements are as follows: 4-week Medicine Inpatient Subinternship, 4-week Outpatient Experience, 2-week Critical Care Experience, 2-week Advanced Basic Science course, 4 weeks of Gateway to Internship split into Gateway to Internship A and Gateway to Internship B courses, the longitudinal Scholarly Inquiry course, and 28 weeks of electives. A summative Objective Structured Clinical Examination (OSCE) is administered during Phase 3 to assess skills students acquired during medical school.

All 2-week courses as well as a few other courses are graded Pass/Fail. All 4-week clinical courses are graded using tiered clinical grading of Honors/High Pass/Pass/Fail. For each course, the grading scale is listed below following the course description.

Phase 3 Requirements

Outpatient Experience

The goal of the outpatient experience is to expose students to the principles of outpatient medicine in the ambulatory care setting. Students will assist in the evaluation and management of patients in the outpatient setting. Students will acquire and utilize clinical data to address clinical problems, prioritize clinical problems, and develop/manage treatment plans. The following selectives fulfill the requirement. Not all courses may be offered each academic year.

| | |
|----------|---|
| ANES 405 | Chronic Pain Management |
| DERM 401 | Dermatology Subinternship |
| FMED 401 | Outpatient Subinternship |
| FMED 406 | Geriatric Subinternship |
| MED 402 | Outpatient Subinternship |
| MED 450 | Nephrology Outpatient Elective |
| MED 452 | Cardiology Outpatient Elective |
| MED 459 | Outpatient Pulmonary Elective |
| MED 478 | Hepatology |
| MED 490 | Women's Health |
| MED 495 | Oncology |
| NSRG 464 | Neurosurgery Subinternship |
| OBGY 402 | Outpatient Subinternship |
| OBGY 411 | Maternal Fetal Medicine |
| ORTH 403 | MSK Outpatient Subinternship |
| PED 401 | Outpatient Subinternship |
| PED 427 | Adolescent Medicine |
| PSYH 405 | Outpatient Sleep Disorders Medicine Senior Elective |

PSYH 408 Outpatient Addictions Psychiatry Senior Elective
SURG 451 Outpatient Plastic Surgery
UROL 452 Urology Outpatient Experience

Medicine Inpatient Subinternship

MED 401 Inpatient Subinternship

The Medicine Inpatient Subinternship experience seeks to build on patient evaluation, presentation, and documentation skills learned in Phase 2. Students will be challenged to build complex differential diagnoses, prioritize problems, and propose management plans for their patients. High-level functioning as a member of an internal medicine team is expected, with special focus given to topics such as building a task list, requesting consultation, transitioning care via handoff and discharge, sensitive and difficult patient communication, and interdisciplinary collaboration. This requirement must be fulfilled through MED 401. For students in the Family Medicine Pathway only, this requirement can be fulfilled by FMED 402. For students in the Pediatrics Pathway only, PED 402 can fulfill this requirement.

Students in the listed pathway can use the following course as an alternative to MED 401:

| | | |
|--------------------------|----------|--|
| Family Medicine Pathway: | FMED 402 | Inpatient Subinternship (Jefferson & Christiana) |
| Pediatrics Pathway: | PED 402 | Inpatient Subinternship |

Critical Care Experience

The Phase 3 Critical Care experience is a 2-week, hands-on introduction to the practice of critical care medicine. Students will be active members of the multidisciplinary critical care team, participate in daily rounds, and assist in the evaluation and management of critically ill patients. Students will be assigned to one of several intensive care units and may request a specific unit of their choice. However, assignments to particular intensive care units are not guaranteed. All Intensive Care Units (ICUs), regardless of specialty, will expose students to the core aspects of critical care medicine including the recognition and evaluation of life-threatening illness, the management of organ failure, and the use of specific life-support techniques such as mechanical ventilation, circulatory support, and organ replacement therapies. Other key concepts common to all ICUs include multidisciplinary collaboration between different healthcare providers, attention to issues surrounding end-of-life care, and the importance of communication with patients and families. The following selectives fulfill the requirement:

| | |
|----------|---------------------------------|
| ANES 486 | Cardiac Surgical Intensive Care |
| MED 458 | Cardiac Critical Unit |
| MED 469 | Medical Critical Care |
| PED 403 | Neonatal Intensive Care Unit |
| PED 480 | Pediatric Critical Care |
| SURG 485 | Surgical Intensive Care |

Advanced Basic Science

The goal of the Advanced Basic Science (ABS) requirement is to foster appreciation of integration between basic science and clinical care. This course will review fundamentals of basic science concepts. Students will utilize literature to foster critical thinking with regards to clinical care, conduct a primary literature review, query the literature to obtain evidence to support clinical decision-making per standard of care, and query the literature to support a decision in which a clinical scenario does not meet criteria for standard of care (i.e. failing standard therapy, or not a candidate for standard therapy). Students will investigate cutting-edge science for alternatives of care. The following selectives fulfill the requirement:

| | |
|---------|--|
| JMD 461 | Advanced Concepts in Microbiology (hybrid) |
| JMD 462 | Advanced Study of Transfusion Medicine |
| JMD 463 | Advanced Study of Musculoskeletal Diseases and Disorders |
| JMD 464 | Advanced Study of Neurological Diseases and Disorders |
| JMD 465 | Clinically Actionable Molecular Pathology |
| JMD 466 | Integrative Medicine |
| JMD 467 | Clinical Pharmacology |
| JMD 468 | Approaches to Pain and Addiction |
| JMD 469 | Blood |
| JMD 470 | Advanced Concepts in Immunology |
| JMD 471 | Evidence-Based Approaches to Metabolic Diseases |
| JMD 474 | Advanced Diagnostics |
| JMD 476 | Pandemic Preparedness |
| JMD 480 | Anatomy & Path: Musculoskeletal |
| JMD 482 | Anatomy & Path: Head and Neck |
| JMD 483 | Anatomy & Path: Thorax |
| JMD 484 | Anatomy & Path: Abdomen |
| JMD 485 | Anatomy & Path: Pelvis/Perineum |

Gateway to Internship

| | |
|---------|-------------------------|
| JMD 494 | Gateway to Internship A |
| JMD 495 | Gateway to Internship B |

The goal of the Gateway to Internship courses is to provide students with the tools necessary to make the transition from medical school to internship and residency, regardless of their future specialty. During these courses, students will be exposed to didactic sessions covering core management topics and then use this information in simulated patient settings and small group evidence-based medicine discussions. They will learn the art of sign-out and cross-covering while managing the stresses of multitasking as an intern. They will demonstrate their newly acquired skills with simulation and standardized patient encounters. Students will also acquire skills on health literacy, transitions of care and end-of-life/death issues. Additionally, sessions and activities on how to manage stress/anger, maintaining personal health and nutrition, and work/life balance during residency will be included. The curriculum is tailored specifically to each pathway.

Scholarly Inquiry

JMD 450 Scholarly Inquiry

All students will be required to complete a 1-credit longitudinal Scholarly Inquiry course. This will include in-class sessions during Gateway to Internship weeks as well as a variety of scholarly activities.

Phase 3 Course Limits

Phase 3 Electives

Phase 3 is comprised of twelve 4-week curricular blocks (48 weeks).

12 weeks of requirements:

- 4 weeks Outpatient Experience
- 4 weeks Medicine Inpatient Subinternship
- 2 weeks Critical Care
- 2 weeks Advanced Basic Science

28 weeks Electives

8 weeks Flex/Unscheduled Time (maximum)

Longitudinal Scholarly Inquiry course throughout Phase 3

In addition to the course requirements above, all Phase 3 students must pass a minimum of 28 weeks of Phase 3 electives. Students may choose their electives from the Phase 3 catalog, however, must ensure they do not exceed the limits on courses that utilize pass/fail grading.

Pass/Fail Limits

Students can take a **maximum** of 16 weeks of Pass/Fail (P/F) courses, including:

- 2 weeks of ABS (requirement)
- 2 weeks of Critical Care (requirement)
- 12 weeks of P/F electives

Within the 12 weeks of P/F electives, you cannot exceed:

- Research (max of 8 weeks)
- 2-week courses (max of 8 weeks)
- 4-week online courses (max of 8 weeks)

Phase 3 Repeated Courses

Students may repeat the same course in Phase 3 for credit with the following limits:

- Online courses may not be repeated
- Advanced Basic Science courses may not be repeated
- All other Phase 3 courses may be repeated a maximum of two (2) times at TJUH or a SKMC affiliate location
- Students may complete a maximum of three (3) away rotations (XXX 498) in the same department

Phase 3 Course Offerings by Department

ANESTHESIOLOGY

Chairperson: Michael S. Green, DO, MBA, FASA

ANES 401 General Anesthesia Subinternship

4 weeks, Credits 3

This comprehensive course introduces the medical student to preoperative evaluation, intraoperative, and postoperative anesthesia management of surgical patients. Emphasis is placed on the principles of anesthesia (general and regional), physiology of various organ systems, anesthetic pharmacology and hemodynamic monitoring. The medical student works as a member of the anesthesia care team, interacting with staff anesthesiologists and residents. Hands-on technical experience of establishing intravenous access, noninvasive/invasive hemodynamic monitoring, various airway management and regional anesthesia techniques taught under close staff supervision. The operating room teaching is supplemented by weekly lectures. During this course, students do not have any overnight call obligations. The last week of course can be spent in the subspecialty of the student's choice, i.e. cardiac, neurosurgery, obstetrics anesthesia or acute pain management.

Grading: Clinical Grading

ANES 402 Regional Anesthesia

4 weeks, Credits 3

This course introduces medical students to the different applications of regional anesthesia techniques for intraoperative and postoperative patient management. Students work as a member of the anesthesia care team with staff anesthesiologists, fellows and residents. They get exposure to a variety of regional techniques and their surgical applications. Basics of ultrasound are taught. Hands-on experience with performing nerve blocks on phantom models is provided. Students are expected to make a 10-15 minute oral presentation on a relevant topic during their last week of the course.

Grading: Clinical Grading

ANES 403 Acute Pain Management

4 weeks, Credits 3

Students in this course are a member of the pain management team and apply the principles of evaluation of patients with acute and chronic pain syndromes. Time will be spent on the postoperative acute pain service. Teaching stresses the need for a complex, multidisciplinary approach to patients in pain. The course is useful for students planning a career not only in anesthesiology but also any specialty that manages patients presenting with pain, opioid use disorders such as hospital medicine, family medicine, internal medicine, emergency medicine, psychiatry and surgical specialties. This is an inpatient elective.

Grading: Clinical Grading

ANES 405 Chronic Pain Management

4 weeks, Credits 3

This course allows students to train in comprehensive evaluation, diagnosis and treatment of a wide variety of chronic pain conditions in an outpatient setting. The student is a member of the Chronic Pain Management Team in the Jefferson Pain Center located at the Navy Yard. The course is useful for students planning a career in anesthesia as well as those who will encounter patients with chronic pain syndromes in family medicine, internal medicine, and surgical practices.

Grading: Clinical Grading

ANES 407 Pediatric Anesthesiology

4 weeks, Credits 3

Pediatric Anesthesiology is a 4-week rotation offering 4th year medical students the opportunity to experience the unique anatomical, physiological, and pharmacological considerations in pediatric patients while also developing procedural skills in airway management, vascular access, and regional anesthesia.

Grading: Clinical Grading

ANES 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty research advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

ANES 486 Cardiac Surgical Intensive Care

2 weeks, Credits 1.5

In addition to introducing the student to core concepts in adult critical care medicine, this course will have a focus on the postoperative care of patients undergoing cardiac surgeries such as coronary artery bypass, heart valve replacement, and cardiac transplantation. Additionally, students may care for patients receiving Extracorporeal Membrane Oxygenation (ECMO). Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations of patients on rounds, and selected procedures.

Grading: Pass/Fail

DERMATOLOGY & CUTANEOUS BIOLOGY

Interim Chairperson: Matthew Keller, MD

DERM 401 Dermatology Subinternship

4 weeks, Credits 3

This course includes examination and treatment of patients in the outpatient department, PowerPoint presentations of common skin diseases, conferences on dermatologic literature, and

consultation service on inpatients. A formal presentation at the end of the course will be required. A modified version of this course is also offered as a 2-week course (DERM 481).

Grading: Clinical Grading

DERM 402 Basic Dermatopathology

4 weeks, Credits 3

This course will provide the student with in-depth knowledge of dermatopathology. The student will have the opportunity to engage in all facets of the activities in a dermatopathology laboratory, including, but not limited to, processing of the skin specimens, daily sign outs at the microscope, and research activities. The student will have the opportunity to work with pathology and dermatology residents, fellows, and faculty members. Oral presentation at the end of the course is a requirement. Prerequisite: DERM 401.

Grading: Clinical Grading

DERM 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty research mentor and approved by the course director.

Grading: Pass/Fail

DERM 481 Dermatology Elective

2 weeks, Credits 1.5

This course includes examination and treatment of patients in the outpatient department, PowerPoint presentations of common skin diseases, conferences on dermatologic literature, and consultation service on inpatients. A formal presentation at the end of the course will be required. A modified version of this course is also offered as a 4-week course (DERM 401).

Grading: Pass/Fail

EMERGENCY MEDICINE

Chairperson: Yvette Calderon, MD, MS

EMRG 401 Emergency Medicine Subinternship

4 weeks, Credits 3

Building on the knowledge learned in EMRG 350, students will continue to demonstrate appropriate initial evaluation and assessment of patients presenting to the Emergency Department with urgent and emergent medical and traumatic conditions. A modified version of this course is also offered as a 2-week course (EMRG 481).

Grading: Clinical Grading

EMRG 405 Point-of-Care Ultrasound

4 weeks, Credits 3

Students should gain an understanding of the appropriate indications for Point-of-Care (POC) ultrasound in the care of patients in the Emergency Department. Additionally, students will gain exposure to the technical and interpretive skills involved in performing POC ultrasound. Training will be supervised by Emergency Medicine faculty who are fellowship trained in POC ultrasound. Students will also attend weekly ultrasound didactic/review sessions. In addition to these scheduled activities, students will be responsible for giving journal article presentations and completing assigned reading and web-based didactic lectures. Students will be evaluated based on their ability to perform and interpret basic POC ultrasounds, completion of the journal article presentation and overall professionalism/work ethic.

Grading: Clinical Grading

EMRG 406 Wilderness & Environmental Medicine

4 weeks, Credits 3

BreckWild is a 4-week educational course designed for senior medical students with a goal of providing a comprehensive introduction to the field of wilderness and environmental medicine while gaining hands-on experience and exposure to skills required for expedition planning, rescue and wilderness survival. Participants will have the opportunity to work towards their Fellowships in the Academy of Wilderness Medicine (FAWM). No prior experience is necessary to enroll in this course. More information about this course can be found at <https://breckwild.org>. *Grading: Clinical Grading*

EMRG 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

EMRG 481 Emergency Medicine Elective

2 weeks, Credits 1.5

This course in Emergency Medicine is intended for those pursuing specialties other than Emergency Medicine. Building on the knowledge learned in EMRG 350, students will continue to demonstrate appropriate initial evaluation and assessment of patients presenting to the Emergency Department with urgent and emergent medical and traumatic conditions. A modified version of this course is also offered as a 4-week course (EMRG 401).

Grading: Pass/Fail

FAMILY & COMMUNITY MEDICINE

Chairperson: Anna Flattau, MD, MSc, MS

FMED 401 Outpatient Subinternship

4 weeks, Credits 3

Students are given progressive responsibility, with supervision, for outpatient care. For the senior taking this course early in the academic year, emphasis is on developing skills in formulating an assessment and plan. For the advanced senior student, further teaching emphasis is on patient management and acute care. Students will enhance interpersonal skills in interview technique, understanding the dynamics of the physician-patient relationship, and the reaction towards illness of physicians, patients, and the family. Students will develop primary care diagnostic and psychosocial skills, promoting a positive transition to the intern year. Students will self-identify specific educational objectives for the course. Examples include honing physical exam skills, improving interview skills, improving time management skills, learning about practice planning, and financial management.

Grading: Clinical Grading

FMED 402 Inpatient Subinternship

4 weeks, Credits 3

Students encounter the diverse range of medical conditions and complex multiple diagnoses typical of hospitalized patients and learn comprehensive patient management for hospitalized patients. The inpatient subinternship student in Family Medicine assumes a high level of responsibility for patient management. The student pre-rounds on their patients in the morning, checks labs, and writes orders. The student presents succinctly to the attending and resident team the diagnosis, assessment, and treatment plan, and is the primary point of care for the patient throughout their hospitalization. Medical, social, economic and psychological factors are addressed. Students participate in family meetings, including end-of-life and other complex decision-making processes. The student communicates with the patients' ambulatory physician, interacts with consultants, and arranges all necessary follow-up and aftercare.

Grading: Clinical Grading

FMED 405 Palliative Care

4 weeks, Credits 3

The student functions as a full member of the Palliative Care team and rounds with the team on a daily basis. Responsibilities include seeing and evaluating patients, writing consultative notes, presenting to the Palliative Care team and communicating with the primary team about palliative care recommendations. Students will participate and attend weekly didactic and Inter-Disciplinary Team (IDT) meetings with faculty, staff, palliative care fellows and residents. Students will present a difficult case or topic review during the final didactic session. Additionally, students will participate in narrative medicine readings and writing exercises as well as weekly reflection rounds.

Grading: Clinical Grading

FMED 406 Geriatric Subinternship

4 weeks, Credits 3

Students are given responsibility for care of geriatric patients in a variety of settings including academic and community-based primary care geriatric practices, home visits, palliative care and geriatric consultation, geriatric assessment, and rehabilitation and long-term care settings. Students participate in weekly didactic and case-based geriatric conferences and clinical team meetings. Students develop primary care/geriatric diagnostic, and psychosocial skills, promoting a positive transition to the intern year. Students self-identify specific educational objectives for the course such as balancing priorities for patients with multiple chronic conditions and providing patient- and family-centered care for older adults.

Grading: Clinical Grading

FMED 409 Homeless Care Continuum

4 weeks, Credits 3

This is a unique course where students will have the rare opportunity to work and observe the integrated medical, behavioral, and addiction care and social support in two low-barrier, integrated settings serving people with experiences of homelessness and housing insecurity. Students spend up to two days a week working in the Pathways Integrated Care Clinic (ICC) in North Philadelphia. The ICC was developed in partnership with two nationally recognized non-profit agencies dedicated to ending and preventing homelessness: Pathways to Housing PA (www.pathwaystohousingpa.org) and Project HOME (<https://www.projecthome.org/>). In addition, students may have the opportunity to: attend community and coalition meetings related to homeless care, addiction treatment, prevention and public policy; and aid homeless patients in transitions from TJUH ED and hospital-based care to community settings in an effort to end homelessness, improve population health, and support community

Grading: Clinical Grading

FMED 413 Maternal-Child Health (MCH) in Family Medicine

4 weeks, Credits 3

This elective is geared towards the student who plans to pursue a career in Family Medicine or Obstetrics. The student participates in outpatient and inpatient obstetrics in Family Medicine, gynecologic clinics, as well as outpatient and inpatient newborn care. Requirements include morning rounds on hospitalized postpartum and newborn patients, 1 full day each week on labor and delivery (with the Family Medicine team), outpatient office hours, and attendance at morning reports and grand rounds. In the last week of the rotation, the student prepares an oral presentation for the MCH team.

Grading: Clinical Grading

FMED 419 Immigrant Health Elective

4 weeks, Credits 3

This elective aims to prepare learners to become effective healthcare providers for immigrant populations. Students will rotate with local community-based organizations that focus on delivering primary care to patients with Low English Proficiency (LEP). Partner organizations include the Wyss Wellness Center, Puentes de Salud, and Esperanza Health Center. The predominant foreign

language in these communities will be Spanish, but other languages such as Asian languages/dialects, Arabic, and Ukrainian may also be encountered. There is no language requirement to take this elective, as interpreter services are available. Students will be offered a subscription to an online, self-paced language course that will be available beyond the rotation duration. Students can select any language of their choice for the subscription. Additionally, students will be required to write a report on the social determinants of health that immigrant communities face.

Grading: Clinical Grading

FMED 421 Primary Care for People with Intellectual and Developmental Disabilities
2 weeks, Credits 1.5

This 2-week course will focus on primary care for patients with Intellectual and Developmental Disabilities (IDD). In addition to seeing patients at the Jefferson FAB Center for Complex Care, it will allow an opportunity for students to journey with patients to better understand their lives outside of the exam room and not just the challenges they face, but all they are capable of and the extraordinary talents and skills they possess. We have partnered with The Arc of Pennsylvania, Carousel Connections, and Special Olympics of Pennsylvania to provide these community-based opportunities. Students will also spend 1-2 sessions with Physical Medicine and Rehabilitation (PM&R) faculty who focus on spasticity management and play a critical role in the care of our patients with cerebral palsy.

Grading: Pass/Fail

FMED 425 Research
4 weeks, Credits 3
2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

FMED 427 Outpatient Community Experience in Family Medicine
4 weeks, Credits 3

This elective provides an opportunity for 4th year medical students to pursue interests in community-based family medicine outside of the greater Philadelphia area. Students work with one of three rural community family medicine physicians in outpatient primary care settings. Students will be expected to see patients, honing their physical examination and assessment skills, while also learning about community-based medicine in rural Pennsylvania. Available locations include Lancaster, Palmyra, and Bellefonte, PA. Students are responsible for transportation and housing.

Grading: Clinical Grading

FMED 429 Introduction to Healthcare Plans and Finance
2 Weeks, Credits 1.5

This 2-week elective provides 4th year medical students with a foundational understanding of healthcare financing, focusing on health plan structures and operations. The course combines

virtual lectures, practical exposure to business activities, and interviews with experts from the Jefferson Health System and Jefferson Health Plans. Topics include health insurance, the Affordable Care Act, population health management, and the use of data in healthcare. Students engage in discussions with stakeholders and gain insights into health plan operations.

Grading: Pass/Fail

ORTH 403 Musculoskeletal Outpatient Subinternship

4 weeks, Credits 3

This course is an interdepartmental course between Departments of Orthopaedics, Family Medicine and Rehabilitation and is an outpatient musculoskeletal subinternship. This course will provide students with the opportunity to care for a broad spectrum of patients with musculoskeletal problems in the outpatient setting. Each student will work with the same provider for 4 weeks to allow for continuity with faculty, increased responsibility and skill building. Students will refine and enhance their skills in musculoskeletal medicine from up to four different perspectives: the orthopedic surgeon, physiatrist, podiatrist, and sports medicine specialists.

Grading: Clinical Grading

HUMANITIES

Director: Megan Voeller, MA

JMD 441 The Medical Memoir: Crafting Compelling, Ethical Stories from a Life in Medicine

4 Weeks, Credits 3

This is a Humanities course for 4th year medical students. This is an opportunity for learners to reflect on their lives in medicine so far and on the situations and people that have touched them within the profession, and to craft these reflections into compelling stories. These stories may be intended for a medical audience or a general audience, but will offer insights into the experience of caring for patients and/or the experience of being a patient. This course is delivered through online learning.

Grading: Pass/Fail

JMD 442 Problems in the History of Healthcare and Medicine: Disease and Society

4 Weeks, Credits 3

This course seeks to examine the roots of some of today's problems in healthcare and the complex factors that shape our healthcare system. Learning about healthcare's past will help us contextualize healthcare today and posit its future. This course is delivered through online learning.

Grading: Pass/Fail

INTEGRATIVE MEDICINE & NUTRITIONAL SCIENCES

Chairperson: Daniel A. Monti, MD, MBA

INT 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

INT 495 Integrative Medicine

2 weeks, Credits 1.5

The Integrative Medicine course offers students a unique clinical experience at the Marcus Institute of Integrative Health. This course familiarizes students with the latest clinical practices and research advances in the field. The clinical practice sees a variety of patients seeking care for a wide range of conditions such as chronic fatigue, chronic pain, irritable bowel syndrome and other gut dysfunction, fibromyalgia, cancer survivorship, traumatic stress, chronic head injuries, headache, gut health, menopausal care, and other hormonal problems. The curriculum includes specific integrative approaches related to diet, nutrition, supplements, stress management, micronutrient therapies, and others. Because of the nature of this practice, students will generally accompany the physician or therapist during a patient encounter, rather than performing independent evaluations of patients. Students will also have the opportunity to review interesting cases from the Institute's unique PET-MRI imaging technology. Students will rotate at Jefferson and Villanova during their rotation.

Grading: Pass/Fail

JMD 466 Integrative Medicine

2 weeks, Credits 1.5

This course is designed to highlight evidence-based approaches used in integrative medicine that can benefit patient care, regardless of the specialty (i.e. patients do not have to be seen at an integrative medicine practice to utilize these approaches). This course fulfills the Advanced Basic Science requirement. This course is delivered through online learning.

Grading: Pass/Fail

MEDICAL EDUCATION

Chairperson: Steven K. Herrine, MD

DME 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty/discipline specifically Anatomy. The specific research project and tasks will be agreed upon by the

student and faculty advisor/PI and approved by the departmental research course director.
Grading: Pass/Fail

MEDICINE

Chairperson: Gregory C. Kane, MD

MED 401 Inpatient Subinternship **4 weeks, Credits 3**

The medicine subinternship inpatient experience seeks to build on patient evaluation, presentation, and documentation skills learned in Phase 2. Students will be challenged to build complex differential diagnoses, prioritize problems, and propose management plans for their patients. High-level functioning as a member of an internal medicine team is expected, with special focus given to topics such as building a task list, requesting consultation, transitioning care via handoff and discharge, sensitive and difficult patient communication, and interdisciplinary collaboration.
Grading: Clinical Grading

MED 402 Outpatient Subinternship **4 weeks, Credits 3**

Students function as a first-year house officer, assisting in the diagnosis and management of problems presenting to the outpatient general medical services. The student will receive special instructions in sharpening skills of history taking and physical diagnosis as well as interpretation of x-ray and laboratory data. Emphasis is directed toward comprehensive patient care in the Internal Medicine outpatient setting.
Grading: Clinical Grading

MED 425 Research **4 weeks, Credits 3** **2 weeks, Credits 1.5**

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.
Grading: Pass/Fail

MED 431 Hematology **4 weeks, Credits 3**

In this course, students work closely with the attending hematologist, fellows, and residents in the diagnosis and management of patients with hematologic diseases in the inpatient setting. Students make daily rounds, attend one morphology conference, and hematology grand rounds each week. Students may elect to spend time in the outpatient office. In addition, students are exposed to clinical laboratory techniques through the Cardeza Foundation Special Hematology and Hemostasis Laboratories.
Grading: Clinical Grading

MED 433 Hematology/Oncology

4 weeks, Credits 3

In this course, students work closely with the attending hematologist/medical oncologists at sites other than the Center City Philadelphia TJUH campus (Methodist, Lankenau, Christiana). The experience varies from site to site depending on the patient population served. However, in all cases, this is primarily an outpatient experience wherein students gain exposure to general hematology/medical oncology practice including a wide variety of malignancies and general hematology issues. In most cases, there is an opportunity to participate in multidisciplinary clinics dedicated to specific cancer types. Students wishing for a similar experience at the TJUH Center City Campus or other Jefferson Medical Oncology practice sites should register for MED 495.

Grading: Clinical Grading

MED 434 Hematologic Malignancies/Bone Marrow Transplant

4 weeks, Credits 3

Medical students will be exposed to topics in the related fields of hematopoietic progenitor cell transplant and hematologic malignancies. In most cases, the rotation will be divided in half with two weeks in the Blood and Marrow Transplant Unit (BMTU) and two weeks with the Hematologic Malignancy Service (HMS) on the regular hospital floor. In the BMTU, students will follow inpatients with residents and attending physicians. These will include patients with a wide variety of hematologic malignancies and focus primarily on those undergoing autologous or allogeneic transplants. Discussions on rounds will be based primarily on patient encounters. Students will be expected to read the appropriate literature in reference to BMT and hematologic malignancies and to contribute to discussions on rounds. On the HMS, students will work with the hematology/oncology fellow and the attending. They will see consults, care for patients admitted for elective chemotherapy and interact with the Blue Medicine team. For students who have already spent a month rounding on the Blue Medicine team as part of the 3rd or 4th year, there is an option to spend all 4 weeks in the BMTU. Students are welcome to see patients in the outpatient BMT practice as well, and to observe new patient consultations. Students are invited to attend weekly management conferences attended by the BMT team including physicians, nursing staff, social work and pharmacy.

Grading: Clinical Grading

MED 441 Nephrology

4 weeks, Credits 3

In this course, students work with patients with kidney diseases, including hypertension, and gain experience in diagnostic techniques, dialysis and renal transplantation through rounds, conferences, and seminars primarily in the inpatient setting.

Grading: Clinical Grading

MED 450 Nephrology Outpatient Elective

4 weeks, Credits 3

Students enrolled in this course will participate in the ambulatory care of patients in the Jefferson Renal Associates outpatient clinic. They will see a variety of patients including those with chronic

kidney disease, patients on dialysis, and renal transplant patients.

Grading: Clinical Grading

MED 452 Cardiology Outpatient Elective

4 weeks, Credits 3

Students enrolled in the course will participate in the ambulatory care of patients in the Jefferson Cardiology Associates outpatient clinic. One student will be assigned to each location. They will see a variety of patients including those with coronary artery disease, hypertension, and congestive heart failure.

Grading: Clinical Grading

MED 454 Introduction to Correctional Medicine

4 weeks, Credits 3

This clinical correctional facility rotation enables students to develop clinical assessment and management skills focusing on the medical management of the inmate population. The student will be introduced to all areas of correctional medicine including the intake process, withdrawal assessments, triage, chronic care, sick call, women's health, infectious disease/communicable diseases, infirmary, and Medications for Opioid Use Disorder (MOUD). The goal for the student is to actively participate in medical care of the incarcerated patients and to integrate service learning into the medical curriculum to increase exposure to underserved populations. This goal will be realized in the Chronic Care clinic where the student will work with a preceptor to interview and examine patients, create a list of differential diagnoses, and create a treatment plan.

Grading: Clinical Grading

MED 457 Cardiology

4 weeks, Credits 3

This course is designed to acquaint the student with the basics of diagnosis and management of a wide variety of cardiovascular problems. The student is expected to work up all new admissions and follow them through the hospital course. The student is expected to make daily rounds and present new workups at this time and review the progress of those patients already on the service. The student is expected to review catheterization films with appropriate faculty and fellows. The student attends daily conferences in the section. It is possible that the student may also be assigned to the patients of other members of the division, depending upon the case load and whether medical house officers also are electing this course.

Grading: Clinical Grading

MED 458 Cardiac Critical Unit

2 weeks, Credits 1.5

In addition to introducing students to core concepts in adult critical care medicine, this course will have a focus on cardiac disease, including the recognition and management of decompensated heart failure, myocardial infarction, valvular disease, and other life-threatening cardiac events. There will be an emphasis on ECG interpretation, the use of echocardiography, and cardiac catheterization

techniques. Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations of patients on rounds, and selected procedures.

Grading: Pass/Fail

MED 459 Outpatient Pulmonary Elective

4 weeks, Credits 3

This is an outpatient medicine-based elective that will provide students exposure to pulmonary medicine in the ambulatory setting. Students will have the opportunity to evaluate common and complex pulmonary disease states. Students will gain proficiency in interpretation of common outpatient pulmonary testing and learn to collaborate with additional specialties. Students will have the opportunity to attend regularly scheduled case conferences, pulmonary didactics, and multidisciplinary management conferences.

Grading: Clinical Grading

MED 460 Jefferson Addiction Multidisciplinary Service Elective

2 weeks, Credits 1.5

This multidisciplinary elective is designed to give medical students exposure to the treatment of substance use disorders, withdrawal from substance use and management of complication of substance use disorders. Our team consists of social workers, certified recovery specialist psychiatrists, family medicine doctors and internal medicine doctors who focus on giving patients with substance use disorders the care they need while they are admitted to TJUH. This rotation is with the inpatient team and offers different learning opportunities than outpatient addiction practices.

Grading: Pass/Fail

MED 467 Pulmonary

4 weeks, Credits 3

This course provides clinical experience with patients with pulmonary diseases, including tests of pulmonary function and other diagnostic techniques through rounds, conferences, and seminars.

Grading: Clinical Grading

MED 469 Medical Critical Care

2 weeks, Credits 1.5

In the Medical Intensive Care Unit, students will be exposed to a wide variety of life-threatening illnesses, but there will be a focus on the recognition and management of respiratory failure, acute liver failure, sepsis, and complications of oncologic disease. There will be an emphasis on the principles of mechanical ventilation and resuscitation, the management of shock states, and end-of-life care. Of note, the intensive care units at Methodist, Lankenau and Abington are "mixed" ICUs and will manage both medical and surgical patients. Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations on rounds, and selected procedures.

Grading: Pass/Fail

MED 472 Infectious Diseases Subspecialty Consult

4 weeks, Credits 3

This elective provides students with exposure to specialized areas within the field of Infectious Diseases. Students will choose 2 of the following ID elective rotations, each for 2 weeks: ID Blue (focus on specialized surgical patients), ID Transplant (focus on solid organ transplant recipients), ID Gold (focus on neuroscience patients at both TJUH and JHN), and ID Silver (focus on patients with opiate use disorder). The elective is suitable for students pursuing careers in internal medicine as well as those entering other specialties who seek to deepen their understanding of infections relevant to their field (i.e. Students pursuing neurology on ID Gold or surgery-bound students on ID Blue).

Grading: Clinical Grading

MED 473 Infectious Diseases

4 weeks, Credits 3

This elective is designed to give students exposure to a wide variety of Infectious Diseases (ID). Students will rotate on the general consult service (ID green), where they will encounter a diverse set of infections affecting patients with a myriad of conditions. Students will diagnose and manage a variety of clinical problems using appropriate microbiologic and diagnostic studies, medical literature and antibiotic prescribing. Daily rounds with the ID attending consist of case presentations, follow-ups of service patients and bedside teaching. The student is expected to attend weekly conferences within the division and special teaching sessions reviewing core material in infectious diseases.

Grading: Clinical Grading

MED 474 Advanced Physical Diagnosis

4 weeks, Credits 3

Physical examination is a powerful but underutilized set of tools to assist primary care physicians in giving quality and efficient patient-centered health care. Advanced Physical Diagnosis is a 4-week course which consists of a set of sessions designed to teach the basic and advanced techniques, outcomes and interpretation used in physical examination. Topics covered in depth include: Head, Eyes, Ears, Nose, & Throat (HEENT), musculoskeletal, eye, skin, abdomen, cardiovascular, pulmonary, male and female genitourinary and neurological examinations. The topics will be discussed in a symptom- or problem-based format with emphasis on what basic and advanced physical examination techniques may be performed to most effectively and efficiently evaluate these specific complaints and assist the clinician in diagnosis. There will be ample opportunity to utilize and refine these psychomotor skills by practicing on standardized patients and patient-equivalents and via physical diagnosis finding rounds. A critical review of literature and concepts of predictive values in using these techniques will be discussed.

Grading: Clinical Grading

MED 475 Clinical Skills Elective**4 weeks, Credits 3**

Students who are so mandated must attend this Clinical Skills course. During this course, principles, approaches, and templates used in clinical practice are developed and perfected by using an individualized approach to each student. Through a review of each student's past end-of-Phase 2 OSCE, cases by the faculty course director followed the next day by a live practice of the same case with each student and faculty director's review, each student will develop the analytical skills and approaches to consistently develop a focused history and physical examination as well as formulate a clinically all-inclusive differential diagnosis by the faculty director.

Grading: Clinical Grading

MED 478 Hepatology**4 weeks, Credits 3**

Students will actively participate in regular outpatient management of patients with liver disease in clinic and endoscopy-based settings. Students will gain exposure and experience in the care of patients with a wide variety of liver disorders including viral hepatitis, cirrhosis, steatotic liver disease, alcohol-associated liver disease, cholestatic liver diseases, chronic liver failure, liver transplantation, and metabolic liver diseases. Students will participate in conferences or activities regarding liver transplantation evaluation and listing, immunosuppression management, and interpretation of liver biopsies. Select inpatient opportunities will also exist for interested students.

Grading: Clinical Grading

MED 479 Gastroenterology**4 weeks, Credits 3**

This course provides clinical experience with patients with diseases of the gastrointestinal tract and liver, including indications for endoscopic and other diagnostic procedures and observer participation in these procedures. Students will participate in rounds, conferences, and seminars.

Grading: Clinical Grading

MED 482 Heart Failure Elective**2 weeks, Credit 1.5**

The Heart Failure elective is designed for students who are interested in exposure to the care of patients with heart failure with reduced and preserved ejection fraction. Students will participate in the care of hospitalized patients, including patients who have undergone heart transplantation or Left Ventricular Assist Device (LVAD) implantation. They will take part in daily rounds and have an opportunity to see patients on both the telemetry and intensive care units. There will also be opportunities, per student interest, to assist in the catheterization lab and in the ambulatory setting. There may also be opportunities to observe in the operating room and participate in daily teaching sessions related to current patient issues.

Grading: Pass/Fail

MED 485 Nutrition**2 weeks, Credits 1.5**

Students will participate in the inpatient care of patients at Thomas Jefferson University Hospital. Students will be assigned to work directly with a clinical dietitian in the hospital setting.

Grading: Pass/Fail

MED 488 Medicine-Pediatrics (Med-Peds)**2 weeks, Credits 1.5**

Students will work with Med-Peds faculty and residents in both the inpatient and outpatient settings to assess if this combined specialty makes for a potential career path. Students will become familiar with the most commonly encountered conditions in adults and children in the outpatient and hospital setting. This rotation takes place at Christiana Hospital.

Grading: Pass/Fail

MED 489 Rheumatology**4 weeks, Credits 3**

This course provides clinical, laboratory, and radiologic study of patients under the guidance of rheumatology fellows and attending staff. Literature reviews and seminars complement the clinical program.

Grading: Clinical Grading

MED 490 Women's Health**4 weeks, Credits 3**

The Women's Health elective is designed to give medical students exposure to a variety of topics that are either unique to or present differently in women. During this multidisciplinary outpatient course, students have the opportunity to rotate between primary care and various subspecialty providers (e.g. breast health, cardiology, endocrinology, gastroenterology, gynecology, gynecologic oncology, pathology, pelvic floor physical therapy, psychiatry, reproductive medicine, rheumatology, urology, etc.). Students may reach out to the scheduling coordinator to request specific subspecialty experiences. During a weekly case-based discussion, students will review current literature on important, commonly encountered women's health care topics.

Grading: Clinical Grading

MED 491 Endocrinology**2 weeks, Credits 1.5**

This course includes patient work-up and daily rounds with fellows, residents, and staff. This course is designed to acquaint the student with basic clinical focus on diabetes, endocrinology, and metabolism. Most of the time is spent in the outpatient setting with additional material covered in weekly clinical and didactic conferences.

Grading: Pass/Fail

MED 492 Perioperative and Consultative Medicine

2 weeks, Credits 1.5

Students will participate in the inpatient care of patients with the Farber Hospitalist group at both TJUH and Jefferson Hospital for Neuroscience (JHN); one student will be assigned to each location. They will see patients with the Farber Hospitalist group 5 days per week for 2 weeks. They will work closely with the Gibbon Farber Consult attending and the JHN Farber attendings to see a variety of surgical patients and provide consultative/perioperative care. Students will learn and become familiar with performing preoperative assessments including cardiac risk stratification prior to surgical procedures, optimizing medical comorbidities preoperatively, appropriately modifying a patient's medication regimen perioperatively, and managing postoperative complications, including but not limited to, postoperative fever, anemia, pain, electrolyte disorders, hypotension, venous thromboembolism, ileus, encephalopathy, etc.

Grading: Pass/Fail

MED 495 Oncology

4 weeks, Credits 3

The goal of this course is to introduce the student to the outpatient evaluation of ambulatory cancer patients. Examples of tumors that the student will have an opportunity to evaluate include melanoma, lymphoma, colorectal cancers, and breast cancer. Selected reading will be recommended based on the clinical material.

Grading: Clinical Grading

NEUROLOGY

Chairperson: A.M. Rostami, MD, PhD

NEUR 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

NEUR 431 Advanced Neurology

4 weeks, Credits 3

The Advanced Neurology elective allows students to explore a wide range of advanced topics as a baseline framework for a potential future career in Neurology. The student will build their schedule by selecting from six course options: Multispecialty Outpatient Clinics, Epilepsy Monitoring Unit, Neurocritical Care at JHN, Night-float at Gibbon or JHN (rotating with the consult resident), Jefferson Northeast Consult Service (staffed by Neurology Department Faculty), or Inpatient Headache Service at Methodist (staffed by Neurology Department Faculty).

Grading: Clinical Grading

NEUR 481 Neurology Elective

2 weeks, Credits 1.5

This course will be significantly tailored to the student's specific interests in the field of Neurology. A modified version of this course is also offered as a 4-week course (NEUR 431).

Grading: Pass/Fail

NEUROLOGICAL SURGERY

Interim Chairperson: Stavropoula I. Tjoumakaris, MD, MBA, FAANS, FAHA, FACS

NSRG 401 Neurosurgery Subinternship

4 weeks, Credits 3

Students participate in inpatient service activities as well as outpatient sessions. They are responsible for history taking and physical examinations. Special emphasis is placed upon the neurological examination. Students participate in diagnostic studies and interpretation, as well as rounds, conferences, and operative procedures. Individual students may elect to attain specific knowledge goals within this field, and a faculty member is assigned in consultation. The student will have scheduled meetings with the clerkship director reviewing the basics of the neurological examination as it pertains to the field of Neurological Surgery. Upon topic review with

Dr. Tjoumakaris, students will review a topic and write a brief presentation following evidence-based data research. Students will attend office hours once or twice a week, with attendings from the different Neurosurgery divisions.

Grading: Clinical Grading

NSRG 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

NSRG 464 Outpatient Neurosurgery

4 weeks, Credit 3

This course is designed to provide students with the opportunity to evaluate, diagnose, and manage patients with various neurosurgical conditions such as cerebral aneurysm, cerebral arteriovenous malformation, carotid stenosis, degenerative spine, brain tumor, and epilepsy in the outpatient setting.

Grading: Clinical Grading

OBSTETRICS & GYNECOLOGY

Chairperson: Jenell S. Coleman, MD, MPH

OBGY 401 Inpatient Subinternship

4 weeks, Credits 3

The student acts as an intern, assigned inpatients and supervised by the house staff and attending physicians. On Labor and Delivery students will follow patients through their labor courses and deliveries while being supervised to further develop skills in assessing the patients and managing their care. On the Gynecology rotation, students will assist in the operating room, assist with consultations and follow patients post-operatively. In the outpatient clinic, students will learn about primary care and prenatal care. Students will learn to care for patients during adolescence, childbearing, and menopause. They will be comfortable counseling patients on contraception options and pregnancy options.

Grading: Clinical Grading

OBGY 402 Outpatient Subinternship

4 weeks, Credits 3

The purpose of this course is to further develop skills in diagnosis and management of common gynecologic and obstetric complaints. At the end of the course, students should feel comfortable performing a concise history and physical exam for both problem and routine visits. The physical exam should include both a breast and pelvic exam. Students will be capable of collecting specimens, performing office tests and interpreting the results. Lastly, students will create a management plan and document all findings in the medical record.

Grading: Clinical Grading

OBGY 408 Gynecologic Oncology

4 weeks, Credits 3

The purpose of this course is to further develop skills in diagnosis and management of gynecologic cancers. The student will participate in rounds, scrub into surgical cases, attend office sessions, and participate in multidisciplinary meetings (such as tumor board) with other specialists involved in the care of our patients. At the end of the course, students should feel comfortable participating in the operating room and managing both the normal and complicated post-op course.

Grading: Clinical Grading

OBGY 409 Maternal Fetal Medicine Inpatient

4 weeks, Credits 3

The purpose of this course is to further develop skills in diagnosis and management of common and uncommon obstetric complications. At the end of the course, students should feel comfortable addressing common issues such as preterm labor, preeclampsia, diabetes in pregnancy and illicit drug use in pregnancy. Students will also be asked to present a specific patient and/or topic to the Maternal Fetal Medicine (MFM) team and to become expert on that topic. Students will work as an integral member of the MFM team including the attending, the fellow, the chief resident and the 2nd year resident. Students will be evaluated by each of the team members.

Grading: Clinical Grading

OBGY 411 Maternal Fetal Medicine Outpatient

4 weeks, Credits 3

The student will spend a great amount of one-on-one time with an attending. Students will directly observe and participate in high-risk counseling, fetal diagnosis, advanced ultrasound, critical care, and genetics. Information and knowledge will be built sequentially. The purpose of this course is to further develop skills in diagnosis and management of common and uncommon obstetric complications. At the end of the course, students should feel comfortable addressing common issues such as preterm labor, preeclampsia, diabetes in pregnancy and illicit drug use in pregnancy. Students will be asked to present a specific patient and/or topic to the MFM team and to become expert on that topic.

Grading: Clinical Grading

OBGY 413 Complex Family Planning

4 weeks, Credits 3

This 4th year elective is designed for students who have a career interest in Obstetrics and Gynecology and would like to gain experience caring for and counseling patients with early pregnancy loss, seeking termination of pregnancy in the first or second trimesters, and those seeking advanced contraceptive care. This elective involves caring for patients in both the outpatient setting and the operating room. Students will participate in all aspects of the care of patients.

Grading: Clinical Grading

OBGY 415 Urogynecology

4 weeks, Credits 3

This 4th year elective is designed to provide the student with an in-depth overview of the full spectrum of female pelvic medicine and reconstructive surgery. At its completion, students will have a deep understanding of normal and disordered female pelvic anatomy, gain experience in pelvic examination and urodynamics, and participate in surgical and nonsurgical management of pelvic organ prolapse and urinary dysfunction. The student will be a member of the urogynecology team and participate in all aspects of the service including rounding on inpatients, didactic lectures, Urogynecology Clinic and office hours at The Institute for Female Pelvic Medicine and Reconstructive Surgery. Students will be assigned patients, participate in the operating room and scrub on all urogynecology cases. In the outpatient office, the student will participate in interviewing, examination and counseling of patients. An oral presentation will be required. Students will receive reading assignments and attend all appropriate conferences and journal clubs.

Grading: Clinical Grading

OBGY 417 Comprehensive Maternal Fetal Medicine

4 weeks, Credits 3

Students will participate, with the members of the department of Maternal Fetal Medicine, in the reading of fetal heart rate tracings and performance of biophysical profiles. Students will observe genetic counseling sessions, prenatal diagnostic procedures, targeted ultrasound examinations and see consultation patients with the perinatologist. Inpatient rounding on the patients admitted to the Maternal Observation Unit, delivery of patients from this unit and L&D triage consultations are also

part of the daily experiences for the student. The student will also see patients alongside the resident in the High-Risk OB Clinic held each week in the OBGYN outpatient clinic. The student will be expected to present an in-depth research report on a selected topic and present it at a conference at the end of the rotation.

Grading: Clinical Grading

OBGY 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty research mentor and approved by the course director.

Grading: Pass/Fail

OBGY 480 Vulvovaginal Clinical Elective

2 weeks, Credits 1.5

This course focuses on vulvar and vaginal disease. Students will learn to diagnose and treat acute and chronic infections as well as learning to manage complex patients with vulvovaginal inflammatory and dermatologic complaints. By the end of the course, students should feel comfortable with microscopy as a clinical diagnostic tool.

Grading: Pass/Fail

OBGY 481 Reproductive Endocrinology

2 weeks, Credits 1.5

This course will allow students to develop skills in diagnosis and management of reproductive endocrine disorders and infertility. Students will have exposure to both inpatient and outpatient management for common reproductive endocrinology and infertility complaints.

Grading: Pass/Fail

OBGY 482 Postpartum Care

2 weeks, Credits 1.5

This course is designed with both inpatient and outpatient components focused on the maternal postpartum transition. Focused study of lactation, peripartum hypertensive disorders, contraception, and mood disorders.

Grading: Pass/Fail

OPHTHALMOLOGY

Chairperson: Julia A. Haller, MD

OPHT 401 Ophthalmology Senior Elective

4 weeks, Credits 3

This course is clinically oriented with emphasis placed upon examination techniques and the

diagnosis and treatment of common eye problems. The student participates in all activities of the Department of Ophthalmology, including conferences, the emergency room, the operating room, and outpatient care services. A multiple-choice test is given at the conclusion of the clerkship. A modified version of this course is also offered as a 2-week course (OPHT 481).

Grading: Clinical Grading

OPHT 407 Basic Ocular Pathology

4 weeks, Credits 3

This course is designed to familiarize the student with ocular structure, microscopic anatomy, and the basic principles of ocular disease. The student will participate in the daily activity of the ocular pathology laboratory as well as study from a slide set of common ocular conditions. The course is limited to those interested in Ophthalmology. A written test is given at the conclusion of the course.

Grading: Clinical Grading

OPHT 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

OPHT 481 Ophthalmologic Elective

2 weeks, Credits 1.5

The course in ophthalmology is clinically oriented and intended for those pursuing specialties other than ophthalmology. Emphasis is placed upon examination techniques and the diagnosis and treatment of common eye problems. The student participates in all activities of the Department of Ophthalmology. Students spend most of their time in the Wills Eye Emergency Room and on

inpatient consults. Students are also exposed to the various subspecialties. A modified version of this course is also offered as a 4-week course (OPHT 401).

Grading: Pass/Fail

OPHT 482 Pediatric Ophthalmology

4 weeks, Credits 3

This is a comprehensive course in pediatric ophthalmology and strabismus including direct patient care in the clinic setting and surgical observation. Students will be exposed to all aspects of the specialty, attend didactic sessions and case presentations that occur during the rotation, and have the opportunity to write a case report for publication if the opportunity arises.

Grading: Clinical Grading

ORAL & MAXILLOFACIAL SURGERY

Chairperson: Robert J. Diecidue, DMD, MD, MBA, MSPH

OMFS 401 Oral & Maxillofacial Surgery Subinternship

4 weeks, Credits 3

Students will develop knowledge of the normal structure and function of the oral and maxillofacial structures including head and neck anatomy, facial and temporomandibular joint anatomy, and anatomy of the oral cavity including dental occlusion. Students will have the ability to perform both a complete and focused physical examination, both extra-oral and intra-oral. They will also have the ability to skillfully assist in minor and major oral and maxillofacial surgical procedures in the clinic and in the operating room.

Grading: Clinical Grading

ORTHOPAEDIC SURGERY

Chairperson: Alexander R. Vaccaro, MD, PhD, MBA

ORTH 401 Orthopaedic Surgery Subinternship

4 weeks, Credits 3

This course is designed for medical students interested in pursuing a career in orthopaedic surgery. It is an intensive subinternship style experience. The student will spend either two 2-week blocks on one of the orthopaedic services (joints, spine, trauma, tumor, foot and ankle, hand, sports, or shoulder) or will spend the four weeks working with two or three different services during the course of the week. Students will be assigned to a senior resident "mentor" who will be responsible for following the students during the time on their service. Under the direction of the senior resident, the student will rotate through the operating room and office hours with various attendings. They will also be given the opportunity to participate and help manage patients and general inpatient work with the junior residents.

Grading: Clinical Grading

ORTH 403 Musculoskeletal Outpatient Subinternship

4 weeks, Credits 3

This course is an interdepartmental course between Departments of Orthopaedics, Family Medicine, and Rehabilitation and is an outpatient musculoskeletal subinternship. This course will provide students with the opportunity to care for a broad spectrum of patients with musculoskeletal problems in the outpatient setting. Each student will work with the same provider for 4 weeks to allow for continuity with faculty, increased responsibility and skill building. Students will refine and enhance their skills in musculoskeletal medicine from up to four different perspectives: the orthopedic surgeon, physiatrist, podiatrist, and sports medicine specialists.

Grading: Clinical Grading

ORTH 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

ORTH 482 Hand Surgery Senior Elective

2 weeks, Credits 1.5

Students will explore a wide range of diagnostic and procedural topics pertaining to hand and upper extremity surgery, including traumatic, degenerative, and neurologic conditions. The course will provide the student with exposure to surgical techniques for nerve injuries, tendinopathies, arthritic conditions, and fractures.

Grading: Pass/Fail

OTOLARYNGOLOGY, HEAD & NECK SURGERY

Chairperson: David Cognetti, MD

OTOL 401 Otolaryngology Subinternship

4 weeks, Credits 3

Students are assigned to the Otolaryngology Service at Thomas Jefferson University Hospital. They have an opportunity to work with each of the attendings, attend surgery, work in the outpatient clinics, make rounds on a daily basis, participate in grand rounds and go to teaching conferences which are held on a regular basis on Wednesdays. Students attend a series of clinical conferences on the various aspects of otolaryngology and outpatient clinics where they are instructed in history taking, physical examination, differential diagnosis and a course of management. They write progress notes and orders which are reviewed and signed by resident faculty. Students are treated as though they are junior interns.

Grading: Clinical Grading

OTOL 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide students with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

OTOL 440 Advanced Otolaryngology Elective

4 weeks, Credits 3

The Advanced Otolaryngology Elective is for students interested in the specialty and functions to

further education on proper techniques of routine outpatient procedures and fundamentals of patient care. Students will partake in both online and in-person lectures along with office, wards, and OR-centric patient care. They will attend didactics, tumor board, and research meetings with residents and fellows.

Grading: Clinical Grading

PATHOLOGY & GENOMIC MEDICINE

Chairperson: Charalambos Solomides, MD

PATH 401 General Pathology

4 weeks, Credits 3

This course consists of theoretical and practical applications of specific areas in Pathology. The student will rotate through surgical pathology, autopsy, microbiology, transfusion medicine and clinical chemistry, with the possibility of spending time in more subspecialized laboratory areas. The laboratory areas may include neuropathology, cytopathology, hematopathology, and molecular. At the end of this course, the student will submit an educational case addressing one or more of the pathology competencies outlined in Academic Pathology. A modified version of this course is also offered as a 2-week course (PATH 481).

Grading: Clinical Grading

PATH 402 Hematopathology

4 weeks, Credits 3

This course is geared towards students interested in a future career in pathology or hematology/oncology. This 4-week course allows students to participate in the daily activities of the Hematopathology section of the department. Students develop a better understanding of pathophysiology, morphology, and clinical features of hematologic disorders. A number of departmental and interdepartmental teaching and patient conferences are available for student attendance. Evaluation is based on student attendance and participation, as well as an end of course clinical case presentation. This course has a prerequisite of PATH 401 (General Pathology) or its equivalent.

Grading: Clinical Grading

PATH 404 Postmortem Pathology

4 weeks, Credits 3

A hands-on elective, designed to help understand how autopsy examination uncovers causes of death and provides insight into how diseases develop and progress. Students participate in and perform autopsy dissection and analysis, your hands-on involvement in dissection increasing with time. Students learn how autopsy pathology helps to understand disease, to uncover what caused death, to determine how diseases evolve and what went wrong in a patient. They will write up their own conclusions, based on their observations, by integrating patients' clinical presentations and evolution, correlating them with pathology, applying medical literature and summarizing whole cases. Students learn about the tools that help solve cases – toxicology, clinical chemistry, clinical microbiology, immunohistochemistry. This elective emphasizes student participation, dissections,

analyses and ability to integrate all these factors. Most importantly, students learn how postmortem pathology informs the care of future patients.

Grading: Clinical Grading

PATH 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

PATH 481 General Pathology Elective

2 weeks, Credits 1.5

This course consists of theoretical and practical applications of specific areas in Pathology. The student will do virtual modules in surgical pathology and laboratory medicine, including hematopathology, microbiology, transfusion medicine, and clinical chemistry. By the end of this course, students will submit a six-minute voice-thread presentation as well as a literature review. Students are also expected to remotely attend tumor board, noon lectures, and transfusion medicine rounds. There is the option to observe and assist on autopsy in person. This course is delivered through online learning. A modified in-person/virtual hybrid version of this course is also offered as a 4-week course (PATH 401).

Grading: Pass/Fail

PEDIATRICS

Chairperson: David Brousseau, MD, MS

PED 401 Outpatient Subinternship

4 weeks, Credits 3

The student will work with attending physicians in caring for pediatric patients in the outpatient setting. Ages range from newborns up to 20 years old and visits encompass both well visits and sick visits. Some common diagnoses/patient visits encountered include asthma, allergies, ADHD, autism, depression, viral respiratory illnesses, otitis media, birth control and STI counseling. The goal of the rotation is to help the student function at the level of an intern. Students will see patients on their own, place orders, manage after visit summaries, write their notes, and manage post-visit communication about results. Rotation can be taken at 3 different sites, including one in Philadelphia and two in Wilmington.

Grading: Clinical Grading

PED 402 Inpatient Subinternship

4 weeks, Credits 3

In this rotation, the student is immersed into the life of a busy pediatric inpatient service at a tertiary

care teaching hospital. Students get to select between four inpatient pediatric teams, and one inpatient heme-onc team. In all the teams, students work closely with attendings, residents, and medical students to provide high level care to their patients. Subinterns are expected to be the primary team members for their patients – presenting on rounds, putting in orders, updating nurses, calling consults, communicating with social workers and case managers, and updating the patients and families. There are multiple teaching opportunities, including joining resident morning report, noon conference, and grand rounds. All students applying to a residency in Pediatrics, Med-Peds, Peds-Neuro, Peds-Rehab, or Triple Board Psychiatry are highly encouraged to take this rotation, but it is open to all students regardless of future career plans.

Grading: Clinical Grading

PED 403 Neonatal Intensive Care Nursery (NICU)

2 weeks, Credits 1.5

This course will expose students to the principles of evaluation and management of critical illness in premature and newborn infants. Specific areas of focus include the management of respiratory failure in neonates, hyperbilirubinemia, hypoglycemia, and neonatal surgical emergencies. Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations on rounds, and selected procedures.

Grading: Pass/Fail

PED 404 Neurodevelopmental Pediatrics

4 weeks, Credits 3

Students will participate in a variety of clinics including developmental and behavioral medicine, psychiatry, psychology, and other therapy services to gain a better understanding of the evaluation, identification and management of children with developmental disabilities, autism spectrum disorders, and behavioral disorders.

Grading: Clinical Grading

PED 410 Adolescent/Pediatric Gastroenterology

4 weeks, Credits 3

During this rotation the student works in a preceptorial relationship with the GI faculty. The student will spend 2 weeks in the inpatient and 2 weeks in the outpatient setting. The student will help in the evaluation and management of children and adolescents with a variety of gastrointestinal disorders such as inflammatory bowel disease, constipation, abdominal pain, gastroesophageal reflux, celiac disease, eosinophilic gastrointestinal disorders, metabolic dysfunction-associated steatotic liver disease, biliary atresia, autoimmune hepatitis, and motility disorders. During the 2 weeks of inpatient rotation the student will work closely with the resident and fellow on service and will participate on the daily patient-centered rounds with the attending on service. During the 2 weeks of outpatient rotation, the medical student will work closely with the GI faculty following the schedule that is provided at the start of the rotation. The student will take the history, complete the medical exam, discuss the case with the attending and complete the medical student note. The student can observe endoscopic procedures like upper endoscopy with biopsies, foreign body removal, colonoscopy with biopsies and polypectomies.

Grading: Clinical Grading

PED 411 Pediatric Allergy**4 weeks, Credits 3**

This course introduces students to the specialty of pediatric allergy and immunology. Conditions commonly encountered during the elective include asthma, allergic rhinitis, food allergy, atopic dermatitis, drug allergy, urticaria, and immune deficiency. Procedures include skin testing, food and drug oral graded challenges, and allergen immunotherapy. Students see patients in the outpatient setting with fellows in training and attending physicians; there are occasional inpatient consults. The clinics are located at Nemours Children's Health Wilmington, Delaware and at TJUH. Current concepts of allergy and immunology are reviewed during clinic/at the bedside and during didactic sessions once per week as a division. Students are encouraged to attend resident morning report and noon conference.

Grading: Clinical Grading

PED 413 Pediatric Cardiology**4 weeks, Credits 3**

This course offers experience in the diagnosis and management of cardiac disease in infants and children. Didactic emphasis involves: (1) perinatal cardiac physiology, (2) congenital cardiac disease, (3) basic pediatric electrocardiography, and (4) echocardiography and cardiac catheterization. Time is predominately spent in the Pediatric Cardiology Clinic with some hospital rounding on cardiac patients.

Grading: Clinical Grading

PED 415 Pediatric Neurology**4 weeks, Credits 3**

This course offers the student the opportunity to participate in the evaluation and management of both common and unusual pediatric neurological disorders, affecting brain, spinal cord, peripheral nerves, neuromuscular junction, and muscle. Neurologic chief complaints are a common cause for emergency room visit and inpatient hospitalization, accounting for at least 10% of these, and are frequent complications of primary health issues in pediatrics. During this course students will participate directly in the diagnosis and management of many causes of seizures and childhood-onset epilepsy, pediatric neuro-immunologic and inflammatory disorders (including Guillain-Barre syndrome, pediatric multiple sclerosis and autoimmune encephalitis), genetic and metabolic encephalopathies, tumors and neoplasms of the nervous system, peripheral neuropathies, Duchenne and other muscular dystrophies, spinal muscle atrophy, and migraine headache, to name a few of only the most common seen. Together with the resident team, students will learn to differentiate primary neurologic disease from complications of other disease processes, including neuro-psychiatric conditions including somatization disorders. This course is 2 weeks inpatient and 2 weeks outpatient.

Grading: Clinical Grading

PED 417 Pediatric Nephrology**4 weeks, Credits 3**

This course exposes the student to acute renal emergencies as well as chronic disease care. The rotations consist of 2 weeks on the inpatient/consult service, and 2 weeks outpatient in the clinic.

Students will have the opportunity to work with residents and directly with faculty members. Course objectives emphasize pathophysiology, evaluation, and treatment.

Grading: Clinical Grading

PED 418 Pediatric Rheumatology

4 weeks, Credits 3

This course provides the student with the opportunity to develop skills in history taking, physical assessments, evaluation of laboratory parameters, and management of pediatric patients with juvenile arthritis, systemic lupus erythematosus, Scleroderma, Lyme arthritis, vasculitis, and other rheumatic diseases. The student will have the opportunity to work with three different attendings on a mix of new consults and follow-up patients. This is a primarily outpatient rotation, although there are opportunities to see inpatients should the student desire. The student will complete histories and physicals independently and then precept every patient with an attending. The student will learn documentation in the outpatient setting.

Grading: Clinical Grading

PED 419 Pediatric Hematology/Oncology

4 weeks, Credits 3

This is an outpatient course designed to provide exposure to a wide range of pediatric hematology/oncology patients. Students are expected to participate in the evaluation of new and follow-up patients. They are involved with weekly psychological conference, weekly tumor board, and the monthly hematology/oncology teaching conference. Students interested in inpatient pediatric heme-onc should take PED 402 and request to be placed on the inpatient heme-onc team.

Grading: Clinical Grading

PED 421 Pediatric Endocrinology

4 weeks, Credits 3

This course is divided into 2 weeks of outpatient clinics and 2 weeks of inpatient rounding and consults. Daily tutorials as well as a combined pediatric/internal medicine endocrine conference are provided. Abnormal growth, diabetes, puberty, and sexual differentiation cases are evaluated.

Grading: Clinical Grading

PED 422 Pediatric Otolaryngology

2 weeks, Credits 1.5

Students on the pediatric otolaryngology rotation will be immersed in the service beginning each day on team rounds. They will split their days between clinic and the operating room while also assisting the residents with inpatient consults. At least three half-day sessions will be spent in the clinic. Students will be able to familiarize themselves with common procedures like bilateral myringotomy with tubes and intracapsular tonsillectomy and adenoidectomy as well as more complex procedures like cochlear implants and direct laryngoscopy and bronchoscopy. In clinic, they will become familiar with history-taking and in learning the physical exam, especially the ear exam which can be challenging for beginners. They will also observe office procedures such as flexible fiberoptic laryngoscopy and frenotomy. Wednesdays are an academic day which will be

spent participating in the otolaryngology academic activities at Jefferson.

Grading: Pass/Fail

PED 424 Pediatric Neurosurgery

2 weeks, Credits 1.5

The student will attend the operating room for all surgical cases during the rotation. At other times the student will accompany staff in office sessions, in inpatient and emergency room consultations. The student will attend Thursday Noon Neuroradiology Conference and other relevant conferences that fall during the rotation. Although they are infrequent and may not arise during the rotation, the student is encouraged to attend unscheduled or emergent cases in the operating room whenever they occur.

Grading: Pass/Fail

PED 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

PED 427 Adolescent Medicine

4 weeks, Credits 3

This course takes place in an outpatient subspecialty adolescent medicine clinic that focuses on reproductive and mental health. Students gain exposure to several fundamental adolescent medicine topics such as contraceptive counseling, menstrual disorders, anorexia nervosa, and anxiety and depression. Students function as an acting intern in this fast-paced outpatient clinic. After their first session of shadowing, they are expected to see patients on their own, precept and complete all documentation by the end of the day. Students become skilled and efficient in 1) taking a history, including a sexual and mental health history, in a confidential and developmentally appropriate manner from an adolescent and young adult; 2) examining adolescents, including the pubertal staging exam using a developmentally appropriate approach; and 3) understanding the basic goals and content of prevention and health promotion in adolescents. Students gain the skills to provide anticipatory guidance about expected growth, development, teen behaviors, contraception, parent interactions, avoidance of health risk behaviors and their consequences, nutrition and exercise, and understanding the pathophysiology, mental health aspects and management of eating disorders.

Grading: Clinical Grading

PED 429 Pediatric Palliative Care

2 weeks, Credits 1.5

This course will introduce students to the philosophy, goals and interdisciplinary practice of palliative care in the pediatric setting for children and families living with serious illness. Students will participate in the care of a wide array of patients, including those awaiting multi-visceral organ

transplant or stem cell transplant, being cared for in the neonatal ICU, pediatric ICU, or cardiac ICU, as well as those living with chronic complex conditions. The focus will be on inpatient palliative care consultations including communication of prognosis, negotiation of goals of care and symptom assessment and management. There may be opportunities to participate in palliative care encounters in the outpatient and home setting. Students will develop an appreciation of ethical challenges faced by seriously ill children, their families and/or the medical team.

Grading: Pass/Fail

PED 433 Pediatric Rehabilitation Medicine

4 weeks, Credits 3

The pediatric rehabilitation rotation involves multidisciplinary care of children with congenital or newly diagnosed complex medical conditions, with a focus on function. The rotation will cover inpatient rehabilitation services including rehabilitation rounds and family meetings, hospital consultations, as well as multiple outpatient experiences including multidisciplinary clinics in cerebral palsy and spinal dysfunction, concussions, prosthetics/orthotics, gait lab, therapies, and more.

Grading: Clinical Grading

PED 471 Advanced Topics in Pediatrics

4 weeks, Credits 3

This course is geared towards 4th year medical students planning to apply to pediatric residencies or med-peds residencies. The goal of the course is to bridge knowledge gained in 3rd year pediatric rotations with skills and knowledge needed to start as an intern in a pediatric residency. The course is meant to fill knowledge gaps in high-yield pediatric topics and discuss the medical approach to situations encountered on the wards, about which future pediatric residents might be anxious. The course will be based on 12 core topics, and include a combination of presentation and learning styles, such as podcasts, videos, case presentations, articles, and discussion groups. There will also be a component of developing literature review skills and using those skills to create a teaching presentation to share with the group. This course is delivered through online learning.

Grading: Pass/Fail

PED 472 Pediatric Nutrition

2 weeks, Credits 1.5

Pediatric Nutrition is an integrative course providing medical students with the opportunity to apply nutritional sciences to clinical care. Students work with pediatricians, dieticians, and others to gain exposure to nutrition topics in both the inpatient and outpatient setting. Expectations will include the assessment of infant/pediatric growth, normal versus atypical feeding practices, breast/formula feeding recommendations and troubleshooting, formula selections for infants and pediatrics, formula mixing and displacement, management of tube feeds, assessment and diagnosis of malnutrition, and diet education for specific disease states. Each student does a presentation on a nutrition topic of their choosing on their final day of the rotation.

Grading: Pass/Fail

PED 473 Pediatric Infectious Disease**4 weeks, Credits 3**

This course is designed to give the student a wide exposure to common pediatric infectious disease problems including pneumonia and sinopulmonary infections, sepsis, osteoarticular infections, head and neck infections, CNS infections and complex infections related to immunocompromised infants, children, and adolescents. This course is primarily inpatient however there are learning opportunities in the outpatient clinic including HIV clinic. Teaching will include real-time discussions on patients while rounding but also didactic learning opportunities.

Grading: Clinical Grading

PED 474 Health Inequities in Pediatric Medicine**4 weeks, Credits 3**

This course operates out of the Nemours Jessup Street outpatient clinic in Wilmington, DE. It will provide students with the opportunity to learn more about health disparities and engage with various disciplines and community resources working to address social drivers of health. Students will experience this firsthand by working with psychologists, community health workers, social workers, lactation consultants, and community organizers. Each week students will learn different aspects of health disparities that they will be addressing. Students will share these reflections to help other learners at Jessup Street gain this knowledge. Students will identify one aspect of patient care in the office that can be changed in taking a step to address health inequities and develop a project that aims to address this. Students will also have the opportunity to see some patients in the office and mentor 3rd year students.

Grading: Clinical Grading

PED 475 Pediatric Chronic Care**2 weeks, Credits 1.5**

Students will have the opportunity to learn about the multidisciplinary care of medically complex and technology dependent children who are cared for within the Diagnostic Referral Group at Nemours Children's Hospital, DE, across multiple settings. They will have the opportunity to visit and round with attending physicians at three different chronic care facilities for children, evaluate patients with complex health care needs in the outpatient setting, evaluate patients with chronic pain/dysautonomia by working with the Integrated Pain and Wellness Program, evaluate pediatric patients with vascular and lymphatic anomalies, participate in inpatient diagnostic referral consults and interact with the team of diagnostic physicians who work with these children every day.

Grading: Clinical Grading

PED 480 Pediatric Critical Care (PICU)**2 weeks, Credits 1.5**

This course will give students a broad exposure to critical illness as it occurs in pediatric patients. Students will participate in the evaluation and management of both common and uncommon illnesses including acute respiratory failure, shock, endocrine emergencies, and complications of oncologic disease. Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations on rounds, and selected procedures.

Grading: Pass/Fail

PED 481 Pediatric Pulmonary Medicine**4 weeks, Credits 3**

Students work up and follow children both in outpatient pulmonology clinic and the inpatient setting (2 weeks of outpatient and 2 weeks of inpatient). In the outpatient setting, students will work up children with a range of diagnoses from asthma to chronic cough to bronchopulmonary dysplasia and technology dependence. Students will also spend time rotating through specialty outpatient clinics, including combined neuromuscular clinic, cystic fibrosis clinic and sleep medicine clinics. In the inpatient setting, students will have the opportunity to follow and work-up patients on the inpatient pulmonology team (asthma, cystic fibrosis, bronchopulmonary dysplasia) and also round on the pulmonary consultation service, which provides pulmonary consultation to the general pediatrics, NICU, PICU and cardiac teams. Students have the opportunity to view bronchoscopies and learn pulmonary function testing. Contact with the attending pulmonologists is daily, and teaching is one-on-one.

Grading: Clinical Grading

PED 482 Pediatric Ophthalmology**2 weeks, Credits 1.5**

This course is designed to familiarize the student with ocular structure, microscopic anatomy, and the basic principles of ocular disease in children.

Grading: Pass/Fail

PED 486 Pediatric Urology**2 weeks, Credits 1.5**

This course is designed to provide students an exposure to surgical and nonsurgical genitourinary problems faced by pediatric urologists. Clinical entities may range from those including newborns (such as ambiguous genitalia, congenital malformations, recurrent urinary tract infections, etc.) to adolescents (such as neurogenic bladder, testicular torsion, etc.). Time will be spent in both the outpatient setting as well as the operating room.

Grading: Pass/Fail

PED 487 Pediatric Orthopaedics**2 weeks, Credits 1.5**

This course is designed to give students exposure to all aspects of pediatric orthopedic problems both surgical and nonsurgical. Clinical entities may range from those including newborns (congenital problems such as hip dysplasia, clubfoot, etc.) to adolescents (such as musculoskeletal infections, fractures, scoliosis, etc.). Time will be spent both in the outpatient setting and operating room.

Grading: Pass/Fail

PED 488 Pediatric Weight Management**2 weeks, Credits 1.5**

This 2-week course will provide students the opportunity to learn more about pediatric obesity medicine under an interdisciplinary care model. Students will work with physicians, PAs, dieticians, psychologists, and exercise physiologists in the ambulatory setting. Topics covered will include

communicating about weight with patients, reflecting on weight stigma and bias, psychosocial and other complex factors affecting weight, assessment of obesity and its comorbidities, and evidence-based treatment options such as lifestyle behavioral interventions using motivational interviewing, anti-obesity medications, and bariatric surgery.

Grading: Pass/Fail

PED 489 Rural Community Pediatrics

2 weeks, Credits 1.5

Rural Community Pediatrics is a 2-week course providing medical students with the opportunity to experience the rewards and challenges of practicing community pediatrics. Rural children often experience worse health outcomes compared to urban peers, highlighting the need for targeted pediatric services. Hence, students will continue to build on general pediatrics knowledge and skills while cultivating additional skills needed to practice in the community setting. Expectations include evaluation and management of both acute and well child visits, demonstrate an understanding of some of the socioeconomic barriers to care, learn how to navigate the healthcare system to meet patients' needs, and recognize the importance of relationship building in fostering trust and improved patient outcomes. This rotation takes place in southern Delaware. Students will be provided accommodations during their rotation.

Grading: Pass/Fail

PSYCHIATRY & HUMAN BEHAVIOR

Chairperson: John Lauriello, MD

PSYH 401 Adult Inpatient Psychiatry Subinternship

4 weeks, Credits 3

The student is assigned to an adult inpatient unit to function as a subintern in this course. Broad exposure to serious psychiatric disorders is provided. The inpatient service also has beds dedicated to medical/surgical patients with prominent psychiatric co-morbidity. The subintern will be afforded the opportunity to function as a house officer and will have primary responsibility for their patients. The unit embraces the entire bio-psychosocial model as well as the multidisciplinary treatment team approach. Students participate in a weekly faculty-led patient interview and case conference. Students will thereby enhance their diagnostic and treatment skills as well as their abilities to assume a leadership role. Students are supervised by attending psychiatrists, residents, and treatment team members through direct observation of interactions with patients and families, assessment of sophistication of chart entries, and competence obtaining and presenting patient histories, formulating cases, and carrying out basic treatment planning.

Grading: Clinical Grading

PSYH 405 Outpatient Sleep Disorders Medicine Senior Elective

4 weeks, Credits 3

Students engage in all aspects of clinical work in the Sleep Disorders Center, an outpatient program for the evaluation and management of sleep disorders. The program encompasses a sleep

laboratory, inpatient consults at TJUH, and the outpatient clinic at the Sleep Disorders Center in Center City, as well as our satellite locations at the Navy Yard. Students are expected to observe the evaluation and management of patients and, after training, to gather an initial database, formulate a differential diagnosis, and develop recommendations for further workup and management. Students are directly supervised by attending physicians and fellows in sleep medicine. Students observe polysomnographic studies and become familiar with sleep monitoring and scoring techniques. Reading material is provided as reference. Students are encouraged to complete an academic project by the end of the rotation, which can take many forms, including detailed case reports, topical presentations, and literature reviews. Evaluation is accomplished through direct observation of student interactions with patients by faculty and house staff as well as assessment of chart entries and competence presenting patient information and assigned projects.

Grading: Clinical Grading

PSYH 408 Outpatient Addictions Psychiatry Senior Elective

4 weeks, Credits 3

This senior elective provides an immersive clinical experience within a licensed, comprehensive outpatient addiction treatment program. Students will evaluate and treat patients with opioid use disorder who are receiving Medication for Opioid Use Disorder (MOUD), including methadone and buprenorphine. The patient population reflects the complexity of real-world addiction care: most individuals also have co-occurring substance use disorders, psychiatric comorbidities, chronic medical illnesses, and significant social determinants of health that affect engagement and outcomes. During the rotation, students will conduct full psychiatric evaluations, perform follow-up visits, and learn how to develop individualized treatment plans. They will gain practical experience in motivational interviewing, harm-reduction approaches, management of withdrawal and cravings, and psychopharmacology for both addiction and co-occurring psychiatric disorders. Students will see patients across all stages of the recovery process, ranging from active use to sustained remission, providing a broad understanding of the chronic disease model of addiction. Throughout the elective, students will work as part of an interdisciplinary team alongside psychiatry residents, addiction psychiatry and addiction medicine fellows, nurses, social workers, and attending physicians. Emphasis is placed on learning how to deliver compassionate, evidence-based care within the context of stigma, trauma, socioeconomic barriers, and health inequities. Grading will be based on clinical performance, professionalism, communication skills, and engagement in patient care and team activities.

Grading: Clinical Grading

PSYH 410 Evidence-Based Approaches for Suicide Prevention

4 weeks, Credits 3

The David Farber ASPIRE Center offers training in evidence-based interventions for suicide prevention for patients 12 years and older. Join a team of psychologists and social workers who deliver evidence-based, trauma-informed, and family-focused care to those experiencing suicidal thoughts, self-harm, or with a history of suicide attempts. Care is delivered through a variety of formats, including individual therapy, family therapy, Dialectical Behavioral Therapy (DBT) skills group, and is available both in-person and via telehealth. Students will attend didactics, participate in role plays, and join a weekly clinical consultation team to discuss patient progress.

Grading: Clinical Grading

PSYH 412 Dialectical Behavior Therapy – Didactics, Team, Clinical Observation

4 weeks, Credits 3

Students will join a full-model (comprehensive) DBT team for a month. Attend DBT-related didactics, participate in DBT Consultation Team, observe DBT skills group taught by a DBT-Certified Psychologist, observe and participate in a DBT skills group run by two clinicians. Complete a DBT behavioral case formulation focused on one of the patients whose treatment you have observed in this elective. This course is delivered through virtual patient encounters.

Grading: Clinical Grading

PSYH 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

PSYH 431 Consultation and Liaison Psychiatry Senior Elective

4 weeks, Credits 3

During this course the student: (1) develops skill in the evaluation and treatment of psychiatric illness in the medical setting; (2) develops an appreciation for the interface between psychological/social factors and medical illness; and (3) learns about the variety of consultation services provided by a psychiatrist in the general hospital. The student functions as an integral clinical member of the Consultation-Liaison Service (C-L). The student is responsible for performing initial consultations and follow-up as indicated. Because the C-L service receives requests for consults from virtually all clinical services at TJUH, a student has the opportunity to gain experience with the management of a wide range of clinical issues. The student is supervised by the attendings and resident(s) assigned to the service and fellow(s) in psychosomatic medicine. Students participate in daily teaching rounds. There is a formal didactic meeting each week and weekly grand rounds.

Grading: Clinical Grading

RADIATION, ONCOLOGY & NUCLEAR MEDICINE

Chairperson: Adam P. Dicker, MD, PhD, FASTRO

RONM 401 Subinternship in Radiation Oncology

4 weeks, Credits 3

The goal of this 4-week course is for students to learn the fundamentals of radiation oncology. Students can use this rotation as an opportunity to explore the specialty as a possible career choice. Students interested in gaining a deeper understanding of oncology care but not planning to pursue radiation oncology will find this course useful to understand radiation oncology as a specialty and therefore better be able to coordinate and deliver optimal multi-disciplinary care and counsel future patients. Students are assigned to one faculty member each day with whom they will see patients.

During the course, students will be expected to work-up patients, perform physical exams, and present cases to faculty. Students will be exposed to treatment planning, simulations, and treatment deliveries throughout the course.

Grading: Clinical Grading

RONM 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

RADIOLOGY

Chairperson: Elias Melhem, MD

RAD 401 Diagnostic Radiology

4 weeks, Credits 3

Students attend didactic lectures that include a radiology core curriculum and subspecialty introductory lectures in chest, cardiac, abdominal, musculoskeletal, computed tomography, ultrasound, MRI, interventional radiology, neuroradiology, mammography, nuclear medicine, physics, and pediatric radiology. Students participate in a variety of exercises with partners, in groups or teams, to reinforce learning. This includes a hands-on ultrasound workshop, where students scan each other. Students also participate in image interpretation sessions with attending radiologists, residents and fellows during clinical rotations in musculoskeletal, fluoroscopy, body CT, ultrasound, interventional radiology, mammography, and nuclear medicine. Students learn appropriateness criteria for ordering diagnostic imaging studies and have various case discussions concerning optimal imaging utilization. There is a mid-course quiz and a final examination, both of which include image interpretation. The final grade is based on test scores, assignments, and class participation.

Grading: Clinical Grading

RAD 403 Neuroradiology

4 weeks, Credits 3

Students are exposed to the entire gamut of neuroradiological procedures, including angiograms, myelograms, computed tomography, and magnetic resonance imaging. They participate in the interpretation of extra-cranial head and neck imaging studies and are given the opportunity to attend and participate in all neuroradiological and otolaryngological radiology conferences. A teaching file of outstanding cases is available.

Grading: Clinical Grading

RAD 406 Cross Sectional Imaging

4 weeks, Credits 3

The goal of this course is for the medical student to gain an appreciation for the cross-sectional imaging evaluation in Body CT, Ultrasound and MRI, understanding their relative strengths and limitations, as well as their indications and appropriateness in different clinical situations. The student rotates for 2 weeks in Body CT, 1 week in US, and 1 week in MRI, observing daily clinical case rounds, image analyses and interpretations by faculty in their assigned reading area. In Ultrasound, the student may have the opportunity to observe the performance of clinical exams by the technologist. The clinical portion is supplemented with ongoing departmental lectures, as well as special interactive didactic sessions. An interesting case presentation at the end of the rotation is a requirement. RAD 401 is a prerequisite. An abbreviated 2-week elective version is also offered (RAD 486).

Grading: Clinical Grading

RAD 407 Interventional Radiology

4 weeks, Credits 3

This course in Interventional Radiology is designed to expose students to the wide range of minimally invasive procedures performed by interventional radiologists. Students will actively participate in procedures as well as be involved in the pre- and post-procedure management of patients. By the end of the course, students will have gained an understanding of the indications, contraindications, risks and benefits of procedures as well as the role of interventional radiologists in the management of both critically ill and non-critically ill patients. Students will be integrated into the interventional radiology team by participating in morning rounds, procedures and clinics. At the end of the course, each student will give a short case presentation on a patient with a disease topic of interest. By the end of the course, students will have a better understanding of both the diagnostic and therapeutic capabilities of the Interventional Radiology division. A modified version of this course is also offered as a 2-week course (RAD 487).

Grading: Clinical Grading

RAD 408 Musculoskeletal Radiology

4 weeks, Credits 3

During this course, students will be exposed to musculoskeletal disorders through radiography, CT, MRI, and image-guided MSK interventional procedures. They will enhance their knowledge of the musculoskeletal anatomy, physiology and pathology through imaging. Students will participate in read outs with the MSK faculty, attend conferences and review materials for self-study. Students will be expected to present a case at the end of the course. A modified version of this course is also offered as a 2-week course (RAD 488).

Grading: Clinical Grading

RAD 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty

advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

RAD 483 Pediatric Radiology

2 weeks, Credits 1.5

Students will be exposed to pediatric disorders through radiography, fluoroscopy, ultrasound, CT, and MRI. They will enhance their knowledge of pediatric specific anatomy, physiology and pathology through imaging. Students will participate in read outs with the pediatric radiology faculty, attend conferences and review materials for self-study. Students will be expected to present a case at the end of the course.

Grading: Pass/Fail

RAD 486 Cross-Sectional Imaging Elective

2 weeks, Credits 1.5

The goal of this course is for the medical student to gain an appreciation for the cross-sectional imaging evaluation in Body CT, Ultrasound and MRI, understanding their relative strengths and limitations, as well as their indications and appropriateness in different clinical situations. The student rotates for 1 week in Body CT and 1 week split between US and MRI, observing daily clinical case rounds, image analyses and interpretations by faculty in their assigned reading area. In Ultrasound, the student may have the opportunity to observe the performance of clinical exams by the technologist. The clinical portion is supplemented with ongoing departmental lectures, as well as special interactive didactic sessions. An interesting case presentation at the end of the rotation is a requirement. A 4-week version of the course is also offered (RAD 406).

Grading: Pass/Fail

RAD 487 Interventional Radiology Elective

2 weeks, Credits 1.5

This course in Interventional Radiology is designed to expose students to the wide range of minimally invasive procedures performed by interventional radiologists. Students will observe procedures and be involved in both the pre- and post-procedure management of patients. Students will gain an understanding of the indications, contraindications, risks and benefits of procedures as well as the role of interventional radiologists in the management of both critically ill and non-critically ill patients. Students will be integrated into the interventional radiology team by participating in morning rounds, observing procedures and clinics. At the end of the course, each student will give a short case presentation on a patient with a disease topic of interest. By the end of the course, students will have a better understanding of both the diagnostic and therapeutic capabilities of the Interventional Radiology division. A modified version of this course is also offered as a 4-week course (RAD 407).

Grading: Pass/Fail

RAD 488 Musculoskeletal Radiology Elective

2 weeks, Credits 1.5

During this course, students will be exposed to musculoskeletal disorders through radiography, CT, MRI, and image-guided MSK interventional procedures. They will enhance their knowledge of

musculoskeletal anatomy, physiology and pathology through imaging. Students will participate in read outs with the MSK faculty, attend conferences and review materials for self-study. Students will be expected to present a case at the end of the course. A modified version of this course is also offered as a 4-week course (RAD 408).

Grading: Pass/Fail

REHABILITATION MEDICINE

Chairperson: Steve Williams, MD

RHAB 401 Senior Elective in Rehabilitation Medicine: Care of People with Acquired Disability

4 weeks, Credits 3

This course focuses on the evaluation, diagnosis, and management of people with acquired physical disability, including those with complicated medical problems. The goal of this course is to enable those who complete the elective to describe the scope of the practice of Physical Medicine and Rehabilitation (PM&R) through providing a wide exposure to PM&R across multiple practice settings. Coequal is the goal of understanding the full scope of interprofessional collaborative care needed to accomplish the functional goals of the patient. In addition, the student will learn to effectively communicate with and examine people with a wide range of acquired disabilities in order to ascertain the patient's goals to develop a person-centered plan of care that takes into account the wide-ranging effects of life altering functional disability, including prevention of secondary conditions. Under the direct supervision of the attending staff and house staff within the Department of Rehabilitation Medicine, the student actively participates in daily work rounds and teaching rounds, as well as all departmental teaching conferences. A modified version of this course is also offered as a 2-week course (RHAB 481).

Grading: Clinical Grading

RHAB 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

RHAB 481 Elective in Rehabilitation Medicine: Care of People with Acquired Disability

2 weeks, Credits 1.5

This course focuses on the evaluation, diagnosis, and management of people with acquired physical disability, including those with complicated medical problems. The goal of this course is enabling those who complete the elective to describe the scope of the practice of Physical Medicine and Rehabilitation (PM&R) for the care of people with acquired disability through providing an exposure to PM&R in one or more practice settings. Coequal is the goal of understanding the scope of interprofessional collaborative care needed to accomplish the functional goals of the patient. Under

the direct supervision of the attending staff and house staff within the Department of Rehabilitation Medicine, the student actively participates in daily work rounds and teaching rounds, as well as all departmental teaching conferences. A modified version of this course is also offered as a 4-week course (RHAB 401).

Grading: Pass/Fail

ORTH 403 Musculoskeletal Outpatient Subinternship

4 weeks, Credits 3

This course is an interdepartmental course between Departments of Orthopaedics, Family Medicine and Rehabilitation and is an outpatient musculoskeletal subinternship. This course will provide students the opportunity to care for a broad spectrum of patients with musculoskeletal problems in the outpatient setting. Each student will work with the same provider for 4 weeks to allow for continuity with faculty, increased responsibility and skill building. Students will refine and enhance their skills in musculoskeletal medicine from up to four different perspectives: the orthopedic surgeon, physiatrist, podiatrist, and sports medicine specialists.

Grading: Clinical Grading

SURGERY

Chairperson: Charles J. Yeo, MD, FACS

SURG 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

SURG 449 Gross General Surgery

4 weeks, Credits 3

During the course, students participate in preoperative and postoperative care of surgical patients, as well as in the operative procedures themselves. Students are considered an integral part of the surgical team at a more advanced level than the core surgical clerks (SURG 350). Clinical x-ray and pathology conferences, ward rounds, and teaching seminars form the basis for surgical instruction outside the operating room. Assumption of graduated individual responsibility is encouraged. As subinterns, students are responsible to their resident team as well as attendings.

Grading: Clinical Grading

SURG 451 Outpatient Plastic Surgery

4 weeks, Credits 3

This is an outpatient clinical course where students will be exposed to treatment of skin cancer, complex surgical wounds, breast reconstruction, cosmetic and outpatient procedures.

Grading: Clinical Grading

SURG 452 General Surgery Elective

4 weeks, Credits 3

During the course, students participate in preoperative and postoperative care of surgical patients, as well as in the operative procedures themselves. Students are considered an integral part of the surgical team at a more advanced level than the core surgical clerks (SURG 350). Clinical x-ray and pathology conferences, ward rounds, and teaching seminars form the basis for surgical instruction outside the operating room. Assumption of graduated individual responsibility is encouraged. As subinterns, students are responsible to their resident team as well as attendings.

Grading: Clinical Grading

SURG 453 Thoracic Surgery

4 weeks, Credits 3

On the Thoracic Service, students will work with 2 attendings who are interactive teachers. Students will be exposed to a variety of lung and esophageal pathology. Additionally, students will be exposed to bronchoscopies, chest tube management, acute lung consults in the ED, and pre-op/post-op care.

Grading: Clinical Grading

SURG 454 Experience in Clinical Transplantation

4 weeks, Credits 3

The student participates as a member of the surgical transplantation team in a program of clinical renal, pancreatic and hepatic transplantation at TJUH. The student studies transplantation immunology utilizing clinical laboratory and library projects. Chronic renal failure and the roles of transplantation and dialysis are explored. Chronic liver failure and liver transplantation are examined in detail. Donor and recipient procedures are integral to the learning experience. Students work closely with the surgical faculty.

Grading: Clinical Grading

SURG 455 Plastic Surgery Elective

4 weeks, Credits 3

During this course, students participate in preoperative and postoperative care of surgical patients, as well as in the operative procedures themselves. Students are considered an integral part of the surgical team at a more advanced level than the core surgical clerks (SURG 350). Clinical x-ray and pathology conferences, ward rounds, and teaching seminars form the basis for surgical instruction outside the operating room. Assumption of graduated individual responsibility is encouraged. As subinterns, students are responsible to their resident team as well as attendings.

Grading: Clinical Grading

SURG 456 Cardiac Surgery

4 weeks, Credits 3

The Division of Cardiothoracic Surgery is dedicated to the assessment, diagnosis and treatment of cardiovascular disease. Students partake in both the inpatient and outpatient arenas as well as being involved in the operating room. The major cardiovascular disorders include coronary disease, valvular disease, heart failure and transplant.

Grading: Clinical Grading

SURG 458 Diseases of the Breast**4 weeks, Credits 3**

This course is conducted as a preceptorship, allowing the student experience in inpatient and outpatient care of problems related to surgery oncology and to the breast. The service is incredibly focused with most cases centering on the management of breast diseases, though there is exposure to other areas such as melanoma, sarcoma, and thyroid/parathyroid disease.

Grading: Clinical Grading

SURG 459 Colon and Rectal Surgery**4 weeks, Credits 3**

Students are exposed to the general surgical subspecialty of colon and rectal surgery. This includes both office- and hospital-based practice, from minor complaints to major and complicated surgical procedures, for example: carcinoma of the colon and rectum; radiation enteritis; ulcerative colitis; regional enteritis; and prolapse. The office-based portion of this course is especially helpful for students heading for careers in family medicine and primary care, in addition to those students anticipating surgical training or medical subspecialty training in gastroenterology.

Grading: Clinical Grading

SURG 461 Outpatient Bariatrics Elective**4 weeks, Credits 3**

This course provides students exposure to the medical and surgical treatment of obesity through a multidisciplinary approach.

Grading: Clinical Grading

SURG 462 Outpatient Vascular Medicine**4 weeks, Credits 3**

This course provides students exposure to peripheral vascular disease, Deep Vein Thrombosis (DVT), Pulmonary Embolus (PE), venous insufficiency, lymphedema and vascular wounds.

Grading: Clinical Grading

SURG 475 Pediatric Surgery**4 weeks, Credits 3**

The goal of this course is to gain familiarity in dealing with infants and children having surgical problems, both as inpatients and outpatients, in and out of the operating room. Students will become knowledgeable about the more common pediatric surgical disease entities and learn to deal with sick children and their families. The student will become an integral member of the team, working with a senior surgical resident, a mid-level TJU pediatrics resident, and, at times, junior surgical residents from other institutions. The service is very closely supervised by the attending pediatric surgeons. There are attending rounds daily as well as participation in the surgical morbidity and mortality conference, surgery/GI/radiology conference, tumor board, surgical pathology conference, and journal club. This course is ideal for students who are interested in surgery and desire further exposure of diseases in children, for those interested in pediatrics, and even those interested in obstetrics/gynecology.

Grading: Clinical Grading

SURG 480 Trauma Surgery**4 weeks, Credits 3**

Students enrolled in this course are expected to play an active role on the trauma service. This includes full participation in the initial resuscitation of trauma patients, operative management, care of patients through the critical care unit, discharge and office follow-up. All aspects of trauma and critical care of these patients are emphasized. Individual responsibility for patient care is encouraged. Participation in all weekly and monthly trauma and critical care conferences is required.

Grading: Clinical Grading

SURG 481 Preadmission Testing**2 weeks, Credits 1.5**

This course focuses on pre-admission testing where students will be exposed to preoperative evaluation of patients undergoing elective surgery.

Grading: Pass/Fail

SURG 485 Surgical Intensive Care**2 weeks, Credits 1.5**

In addition to introducing the student to core concepts in adult critical care medicine, this course will have a focus on specific conditions common to surgical intensive care, including the management of trauma, massive hemorrhage, transplantation, sepsis and life-threatening complications of surgery. Students will be expected to actively participate in all aspects of care including diagnostic evaluations, presentations on rounds, and selected procedures.

Grading: Pass/Fail

SURG 490 Peripheral Vascular Surgery**4 weeks, Credits 3**

This course is designed to provide in-depth exposure to the evaluation and management of peripheral vascular disease. During the course, the student functions at a subintern level. The student evaluates patients in the office and participates in management decisions. If the patient is admitted to the hospital, the student performs the admitting history and physical examination and participates in the operative and postoperative care. This course is designed to cover all areas of peripheral vascular surgery, including cerebral vascular disorders, aneurysmal and occlusive disease of the aorta and its major tributaries, as well as lower extremity revascularization. In addition, venous hemodynamics and the pathophysiology of venous insufficiency are covered. The student has the advantage of working closely with vascular surgery attendings as well as the appropriate housestaff.

Grading: Clinical Grading

UROLOGY

Interim Chairperson: Paul H. Chung, MD, FACS

UROL 401 Senior Elective in Urology

4 weeks, Credits 3

Students receive in-depth exposure to principles of urologic diagnosis and actively function as a house officer in the operating room, clinical office hours, and with inpatients. Both surgical and nonsurgical approaches to urologic disease are emphasized with a presentation of underlying mechanisms of urologic disease. In this rotation, students are welcome to attend all conferences, journal club, and resident didactic sessions. They are encouraged to participate in case presentations during urology grand rounds. During this course, students are offered a broad range of practical and didactic opportunities. An oral presentation is required at the end of the course in a Grand Rounds setting.

Grading: Clinical Grading

UROL 405 Urologic Oncology

4 weeks, Credits 3

This course is geared towards students who are pursuing Urology. The focus of the course is on urologic oncology, and students will receive immersive exposure to this subspecialty. Students spend time with members (attending physicians, nurse practitioners, residents, and fellows) of our urologic oncology team. They will participate in the outpatient clinic, on the inpatient wards, and in the operating room, acting as a junior house officer in their responsibilities. They will be expected to learn the concepts underlying the various genitourinary cancers, including screening, diagnosis, staging, and treatment. They will also be exposed to a variety of urologic oncology surgeries, including minimally invasive options. Additionally, they are expected to participate in the weekly multidisciplinary genitourinary oncology conferences and clinic. An oral presentation on a topic in urologic oncology is required at the end of the course in a Grand Rounds setting.

Grading: Clinical Grading

UROL 406 Endourology

4 weeks, Credits 3

This course is geared towards students who are pursuing Urology. The focus of the course is on endourology and students will receive immersive exposure to this subspecialty. Students are expected to spend time with members (attending physicians, residents, and fellows) of our endourology team. They will participate in the outpatient clinic, on the inpatient wards, and in the operating room, acting as a junior house officer in their responsibilities. They will become familiar with metabolic evaluation and medical treatment of patients with nephrolithiasis. They will also be exposed to endoscopic management of nephrolithiasis, urinary obstruction, stricture disease, and upper tract urothelial carcinoma. An oral presentation on a topic in endourology is required at the end of the course in a Grand Rounds setting.

Grading: Clinical Grading

UROL 407 Genitourinary Reconstruction

4 weeks, Credits 3

This course is geared towards students who are pursuing Urology. The focus of the course is on voiding dysfunction, female urology, neurourology, and genitourinary reconstruction, and students will receive an immersive exposure to this subspecialty. Students are expected to spend time with attending physicians, nurse practitioners, residents, and fellows. They will participate in the outpatient clinic, on the inpatient wards, and in the operating room, acting as a junior house officer in their responsibilities. They will be exposed to the evaluation and management of voiding dysfunction, including behavioral therapy, pharmacotherapy, and office-based procedures, including the administration and interpretation of urodynamic studies. They will also participate in surgeries focusing on correction of the various etiologies of voiding dysfunction as well as male and female pelvic reconstruction procedures. An oral presentation on a topic in voiding dysfunction, neurourology, female urology, or genitourinary reconstruction is required at the end of the course in a Grand Rounds setting.

Grading: Clinical Grading

UROL 425 Research

4 weeks, Credits 3

2 weeks, Credits 1.5

This course will provide the student with a concentrated research experience within this specialty discipline. The specific research project and tasks will be agreed upon by the student and faculty advisor/PI and approved by the departmental research course director.

Grading: Pass/Fail

UROL 430 Advanced Topics in Urology

4 weeks, Credits 3

Students will be exposed to general and specialty-specific urologic conditions along with evaluation, diagnosis, and treatment. All learning will be done virtually through lecture and case reports. Recorded surgical videos that are specific to the learning modules will be supplied. The curriculum will be available through Canvas. Assessment will be via discussion board prompts, for which a grading rubric will be supplied, and multiple-choice questions specific to each module. Students will be asked to participate in virtual conferences within the Urology Department, including weekly Pathology Tumor Board and Grand Rounds. Weekly lectures over a virtual platform will be given by Urology faculty.

Grading: Pass/Fail

UROL 452 Urology Outpatient Experience

4 weeks, Credits 3

This course will expose students to general and specialty-specific urologic conditions including presentation, evaluation, diagnosis, and treatment. Students will also be exposed to office-based urologic procedures, such as cystoscopy, prostate biopsy, urodynamic studies, and vasectomy.

Grading: Clinical Grading

ADVANCED BASIC SCIENCE COURSES

JMD 461 Advanced Concepts in Microbiology 2 weeks, Credits 1.5

The goal of this course is to further develop students' knowledge of clinically relevant bacteria, mycobacteria, and fungi, including how these organisms are identified in the laboratory and how these results inform patient care. Students will work through a case each week and will attend Virtual Microbiology Rounds sessions. This course is delivered in an online format.

Grading: Pass/Fail

JMD 462 Advanced Study of Transfusion Medicine 2 weeks, Credits 1.5

This course is structured around multiple learning experiences, including multiple short virtual lectures, case-based asynchronous online learning dedicated to transfusion medicine, and includes a tour of the blood bank. This course is delivered through online learning.

Grading: Pass/Fail

JMD 463 Advanced Study of Musculoskeletal Disease and Disorders 2 weeks, Credits 1.5

This course will cover the pathophysiology underlying a mechanism-based approach to diagnosis and treatments for common musculoskeletal (MSK) disorders and diseases using case-based learning. Advanced cases incorporate multiple stages of the disease/disorder spanning periods of childhood, adolescence, early and late adulthood. Treatment categories include pharmacological, surgical, therapeutic, and lifestyle modifications. This course is delivered through online learning.

Grading: Pass/Fail

JMD 464 Advanced Study of Neurological Diseases and Disorders 2 weeks, Credits 1.5

This course will cover the pathophysiology underlying a mechanism-based approach to diagnosis and treatments for common neurological disorders using case-based learning. Advanced cases are tailored to incorporate multiple stages of one or more diseases/disorders spanning periods of childhood, adolescence, early and late adulthood. Treatment categories include pharmacological, surgical, therapeutic, and lifestyle modifications. This course is delivered through online learning.

Grading: Pass/Fail

JMD 465 Clinically Actionable Molecular Pathology (CAMP) 2 weeks, Credits 1.5

This course is a mixed-format course on molecular pathology with a focus on clinically actionable molecular targets. This course is structured around multiple learning etiologies, including multiple "mini" online lectures, case-based learning, as well as attendance to at least one molecular focused tumor board. This course is delivered through online learning.

Grading: Pass/Fail

JMD 466 Integrative Medicine**2 weeks, Credits 1.5**

This course is designed to highlight evidence-based approaches used in integrative medicine that can benefit patient care, regardless of the specialty (i.e. patients do not have to be seen at an integrative medicine practice to utilize these approaches). This course is delivered through online learning.

Grading: Pass/Fail

JMD 467 Clinical Pharmacology**2 weeks, Credits 1.5**

This course introduces the discipline of Clinical Pharmacology. Although clinicians can become board-certified in Clinical Pharmacology, the concepts can be applied by clinicians in any specialty. This course is delivered through online learning.

Grading: Pass/Fail

JMD 468 Approaches to Pain and Addiction**2 weeks, Credits 1.5**

This course highlights the use of opioids and other analgesics in multimodal targeted analgesia and the role of medication in addiction medicine. Opportunities will be available to participate in "synchronous" and online sessions.

Grading: Pass/Fail

JMD 469 Blood**2 weeks, Credits 1.5**

This course focuses on blood disorders, including leukemias, pro-thrombotic disorders, bleeding disorders, and heritable anemias. This course is structured around multiple learning experiences, including multiple short virtual lectures, case-based learning, and online small group presentation. This course is delivered through online learning.

Grading: Pass/Fail

JMD 470 Advanced Concepts in Immunology**2 weeks, Credits 1.5**

This course focuses on the understanding of the components of the innate and adaptive immune system and how these systems are regulated, the ways in which the immune system contributes to the appropriate response to pathogens, and to the inappropriate development of autoimmune responses. Students will learn to apply this knowledge to the management of clinical scenarios and explore new and evolving knowledge and research in basic and clinical immunology. This course is delivered through online learning.

Grading: Pass/Fail

JMD 471: Evidence-Based Approaches to Metabolic Diseases**2 weeks, Credits 1.5**

This asynchronous course discusses evidence-based approaches for diagnosis and treatment of rare

and common diseases of metabolism, including review of advanced genetic interventions. Methods of instruction include online modules, patient narratives, virtual attendance of the annual NIH Rare Diseases Day and curated sessions from the Royal Society Symposium on Obesity, critique of published studies from the primary literature, and feedback on student-generated EBM interventions for treatment of metabolic diseases.

Grading: Pass/Fail

JMD 474 Advanced Diagnostics

2 weeks, Credits 1.5

This is a case-based course on diagnostic medicine including aspects of pathology, radiology, and laboratory medicine. This course is structured around doing one literature review and 4 cases using online discussion boards and survey tools. Besides the diagnostic component, each case will also have an overarching "theme," including principles of testing, critical evaluation of literature, barriers to diagnosis, and financial cost of diagnosis. This course was created as a collaboration between the Pathology and Radiology departments. This course is delivered through online learning.

Grading: Pass/Fail

JMD 476 Pandemic Preparedness

2 weeks, Credits 1.5

The goal for this course is to summarize lessons learned and opportunities for improvement from our response to the Covid pandemic, and then to apply these lessons to an emerging infectious disease. Response is broken into 4 general areas: interrupting disease transmission; reducing morbidity & mortality; treatment strategies; and prophylaxis/prevention strategies.

Grading: Pass/Fail

JMD 480 Anatomy and Pathology Musculoskeletal Elective

2 weeks, Credits 1.5

This is a focused course designed to supplement select critical knowledge areas and competencies in the anatomical sciences (dissection, imaging, embryology, histology), pathology and pathogenic mechanisms for components of the nervous system. This course will rely heavily on active learning via laboratory dissection/presentations, team-based learning sessions and journal club presentations on current literature. This is a hybrid course with an in-person component.

Grading: Pass/Fail

JMD 482 Anatomy and Pathology Head and Neck Elective

2 weeks, Credits 1.5

This is a focused course designed to supplement select critical knowledge areas and competencies in the anatomical sciences (dissection, imaging, embryology, histology), pathology and pathogenic mechanisms for the structures of the head and neck. This course will rely heavily on active learning via laboratory dissection/presentations, team-based learning sessions and journal club presentations on current literature. This is a hybrid course with an in-person component.

Grading: Pass/Fail

JMD 483 Anatomy and Pathology Thorax Elective**2 weeks, Credits 1.5**

This is a focused course designed to supplement select critical knowledge areas and competencies in the anatomical sciences (dissection, imaging, embryology, histology), pathology and pathogenic mechanisms for the structures of the thorax. This course will rely heavily on active learning via laboratory dissection/presentations, team-based learning sessions and journal club presentations on current literature. This is a hybrid course with an in-person component.

Grading: Pass/Fail

JMD 484 Anatomy and Pathology Abdomen Elective**2 weeks, Credits 1.5**

This is a focused course designed to supplement select critical knowledge areas and competencies in the anatomical sciences (dissection, imaging, embryology, histology), pathology and pathogenic mechanisms for the structures of the abdomen. This course will rely heavily on active learning via laboratory dissection/presentations, team-based learning sessions and journal club presentations on current literature. This is a hybrid course with an in-person component.

Grading: Pass/Fail

JMD 485 Anatomy and Pathology Pelvis/Perineum Elective**2 weeks, Credits 1.5**

This is a focused course designed to supplement select critical knowledge areas and competencies in the anatomical sciences (dissection, imaging, embryology, histology), pathology and pathogenic mechanisms for the structures of the pelvis and perineum. This course will rely heavily on active learning via laboratory dissection/presentations, team-based learning sessions and journal club presentations on current literature. This is a hybrid course with an in-person component.

Grading: Pass/Fail

SCHOLARLY INQUIRY

Co-Directors: Karen Bussard, MS, PhD & Michael Pasirstein, MD, MPH

JMD 425 Research**2 weeks, Credits 1.5****4 weeks, Credits 3**

Students who wish to complete research outside of a traditional clinical department may do so by registering for JMD 425. The specific research project and tasks will be agreed upon by the student and faculty research mentor and approved by the course director. The proposal must be submitted to the SI Director at least 6 weeks prior to the elective start date for approval.

Grading: Pass/Fail

JMD 428 Independent Elective

2 weeks, Credits 1.5

4 weeks, Credits 3

This elective allows a student to design an elective to meet individual learning needs. The elective must consist of a meaningful educational experience equivalent to either 2 weeks or 4 weeks of elective credit and cannot be redundant with other coursework or requirements. This elective is geared towards research or scholarly projects that do not fall under the typical research course description and is not typically for clinical experiences. The SKMC faculty mentor and student must define the learning experience including goals and objectives that map to graduation competencies, deliverables and assessment. The proposal must be submitted to the Phase 3 Director for approval at least 6 weeks prior to the start date of the elective.

Grading: Pass/Fail

JMD 450 Scholarly Inquiry

Credits: 1

Scholarly Inquiry aims to provide students with a wide range of skills and experiences that they need to become critical consumers and producers of healthcare knowledge. In this phase-long course, students continue their transition to independence in scholarship, integrating life-long learning opportunities among their clinical clerkships. Students complete an independent series of offered 'selectives,' which may include lectures, seminars, workshops, journal clubs, book reviews, IRB or protocol review committee meeting participation, providing mentorship, teaching opportunities, conference presentations, publication of scholarly work, or other pre-approved activities. Students also learn, as part of the continued common and track-based curricula, to summarize their work and present themselves as scholars in oral form (e.g. in a professional pitch/interview).

Grading: Pass/Fail

GATEWAY TO INTERNSHIP

Director: Shruti Chandra, MD, MEHP

The goal of the Gateway to Internship courses is to provide students with the tools necessary to make the transition from medical school to internship and residency, regardless of their future specialty. During these 2 courses, students will be exposed to didactic sessions covering core management topics and then use this information in simulated patient settings and small group evidence-based medicine discussions. They will learn the art of sign-out and cross-covering while managing the stresses of multitasking as an intern. They will demonstrate their newly acquired skills with simulation and standardized patient encounters. Students will also acquire skills on health literacy, transitions of care and end-of-life/death issues. Additionally, sessions and activities on how to manage stress/anger, maintaining personal health and nutrition, and work/life balance during residency will be included. Students must complete all Gateway to Internship courses prior to graduation.

JMD 494 Gateway to Internship A

2 weeks, Credits 1.5

This course is offered in April/May.

Grading: Pass/Fail

JMD 495 Gateway to Internship B

2 weeks, Credits 1.5

This course is offered in March.

Grading: Pass/Fail
