Notice of Nondiscrimination Policy

Thomas Jefferson University is committed to providing equal educational and employment opportunities for all persons, without regard to race, color, national or ethnic origin, religion, sex, sexual orientation, age, disability, or veteran’s status.

Thomas Jefferson University complies with all relevant local ordinances and state and federal statutes in the administration of its educational and employment policies and is an Affirmative Action Employer.

Thomas Jefferson University has reviewed its policies for recruiting, advertising, job evaluation, and compensation to ensure conformance to the requirements of the Sex Discrimination Guidelines for Government Contractors, Sexual Harassment Guidelines, the Pregnancy Discrimination Amendment to the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Vietnam Era Veterans Readjustment Assistance Act of 1974, and the Americans with Disabilities Act. The University’s leave policy is nondiscriminatory, and disability due to pregnancy is treated like any other illness or injury.

Equal opportunity is not only the law, it is the firm policy of Thomas Jefferson University, and our managerial and supervisory personnel are directed to assign great importance to it.

Thomas Jefferson University has established monitoring, review, and grievance procedures to ensure affirmative action matters receive the attention of appropriate personnel at all levels up to and including the Senior Officers of the University.

Any inquiries may be directed to the Manager of Employee Relations or to the University’s Affirmative Action Officer at 238 Martin building, (215) 503-7758.

Credits: This catalog was compiled and edited by Steven K. Herrine, MD Vice Dean, Academic Affairs/Undergraduate Medical Education and Dorissa Bolinski, SKMC Editor. Photography by Karen Kirchhoff and Dave Lunt, Medical Media Services.
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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 Web site.
Mark L. Tykocinski, MD
Provost and Executive Vice President, Thomas Jefferson University
The Anthony F. and Gertrude M. DePalma Dean, Sidney Kimmel Medical College
# Board of Trustees

**Thomas Jefferson University**

**Chair**  
Richard W. Hevner

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<td>Robert Adelson</td>
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Administration

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Department Chairs

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Biochemistry & Molecular Biology
Cancer Biology
Dermatology & Cutaneous Biology
Emergency Medicine
Family and Community Medicine
Medical Oncology
Medicine
Microbiology & Immunology
Molecular Physiology and Biophysics
Neurological Surgery
Neurology
Neurosciences
Oral & Maxillofacial Surgery
Obstetrics & Gynecology
Ophthalmology
Orthopaedic Surgery
Otolaryngology/Head & Neck Surgery
Pathology, Anatomy and Cell Biology
Pediatrics
Pharmacology and Experimental Therapeutics
Psychiatry & Human Behavior
Radiation Oncology
Radiology
Rehabilitation Medicine
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Urology

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Mission Statement

Sidney Kimmel Medical College is committed to: educating physicians who will form and lead the integrated healthcare delivery and research teams of tomorrow; discovering new knowledge that will define the future of clinical care through investigation from the laboratory to the bedside, and into the community; and setting the standard for quality, compassionate and efficient patient care for our community and for the nation. Thomas Jefferson University recognizes that a diverse community is imperative to achieving excellence in patient care, education, and research. As we carry out our mission, we are committed to the highest standards of professionalism and aspire to be a community of discovery, learning and inclusion.

History and Development

In 1824, when each of the two great centers of medical learning, London and Paris, had only one medical school, George McClellan founded Jefferson Medical College of Philadelphia, the city’s second medical college and the ninth in the nation. McClellan’s approach to medical education was founded on supervised student participation in the care of patients, at that time a revolutionary and highly criticized approach. Students, however, were quick to appreciate the merits of such instruction: 109 students matriculated in Jefferson’s first class, and the school grew quickly in the following years.

During the mid-nineteenth century, Jefferson students had the benefit of a strong college faculty, as well as a variety of clinical settings including the General Dispensary attached to the College, the Blockley Almshouse (Philadelphia Hospital), Pennsylvania Hospital, and Wills Hospital for diseases of the eye.

About 1843, Jefferson began to rent rooms for some of the patients who underwent surgery in the school amphitheater, providing another setting for patient observation and care.

In 1856, a renowned graduate, Samuel D. Gross (class of 1828), returned to bestow upon his alma mater a stature that has lasted to this day. Thomas Eakins’ portrait, “The Gross Clinic,” depicts him as a commanding figure in the college amphitheater; in fact, Gross was equally preeminent in the medical profession. The finest surgeon of his time, an educator of the highest distinction, and author of 14 books (including A Manual of Military Surgery, used by both armies
in the Civil War), Gross considered himself to be first and foremost a physician who devoted much time to family practice. He was active in many societies, and he founded several, including Jefferson’s Alumni Association.

In the late nineteenth and early twentieth centuries, Jefferson expanded rapidly – three buildings were opened between 1898 and 1907. In 1924, Jefferson opened the Thompson Annex, the tallest hospital building in the world at that time. Two more buildings were opened by 1931, and in 1954 the new Pavilion (later named the Foerderer Pavilion) provided state-of-the-art medical facilities, as well as many patient amenities.

Although Jefferson’s campus has changed dramatically, its principal mission, to provide the finest health care education, never changed. In 1967, the Board of Trustees authorized the establishment of the school which subsequently became the College of Health Professions. The College of Graduate Studies was established in 1969, the year in which the three colleges and Jefferson Medical College Hospital became Thomas Jefferson University.

In 1959, Jefferson’s clinical, teaching and research functions were housed in five buildings. During the next 18 years, the university spent $155 million and quadrupled the area to three million square feet. Jefferson Alumni Hall was completed in this period, Jefferson’s first significant commitment to research infrastructure.

Among the more recent additions are the Gibbon Building, primarily an inpatient facility for Thomas Jefferson University Hospital; the Medical Office Building, providing space on its eight floors for outpatient departments; physicians’ offices; and Breast Imaging Center; and the Surgicenter, designed to handle all outpatient surgery. The Bodine Radiation Center, opened in 1986, followed by the Clinical Office Building in 1990. The Blumle Life Sciences Building, opened in July 1991, doubled the space available for research. The Dorrance H. Hamilton Building, with six floors of educational space and fronted by a campus green opened in November 2007. On June 18, 2014, JMC changed its name to Sidney Kimmel Medical College at Thomas Jefferson University in honor of a multimillion dollar donation from the philanthropist.

As one of the oldest institutions of higher education in the nation, SKMC has emphasized the attainment of clinical excellence in its educational programs. It encourages the student body and faculty to commit themselves to lifelong intellectual pursuits.
Sidney Kimmel Medical College is committed to maintaining quality as the hallmark of good medical practice and as the cornerstone of the future, both in education and in the provision of health care. The University also continues to develop high quality research programs to enrich education and patient care.

In carrying out its primary objective, that of educating competent physicians, Sidney Kimmel Medical College pursues the goal of excellence by:

- Selecting academically qualified students from diverse racial, ethnic, and socioeconomic backgrounds who display caring attitudes and the potential to mature into skilled and compassionate professionals.
- Developing intellectual curiosity in students and instilling in them scholarly habits which will ensure continued professional growth and development as physicians.
- Instilling in each student the highest standards of professional ethics and social responsibility.

From its modest beginnings in George McClellan's office across from Independence Hall, Sidney Kimmel Medical College is the second largest private medical school in the United States.

Among the most illustrious of Thomas Jefferson University's more recent faculty and alumni are: John H. Gibbon, Jr., (Class of '27), who performed the world's first successful open heart operation in 1953 at Jefferson, and who opened the era of cardiac surgery with the development of his heart-lung machine; James M. Hunter (Class of '53), who developed the first artificial tendon for use in reconstructing hands; Allan J. Erslev, who was the first to demonstrate the existence of a renal hormone that stimulated red blood cell production, later known as erythropoietin; Laird Jackson, who developed a method for first-trimester diagnosis of severe congenital diseases; and Robert C. Gallo (Class of '63), who revolutionized the field of immunology by isolating interleukin-2, and who is credited with co-discovering the AIDS virus. Carlo M. Croce, MD, an internationally renowned geneticist who founded the Jefferson Cancer Institute and the Jefferson Cancer Center (renamed the Sidney Kimmel Cancer Center), discovered the involvement of immunoglobulin loci and the C-myc oncogene in Burkitt's lymphoma, and identified the gene, bcl-2, that is involved in follicular lymphoma.
This rich history of landmark discoveries at Jefferson has laid the groundwork for extraordinary research endeavors on campus nowadays. Current research programs span diverse fields — cancer biology, neurosciences, immunology, cardiovascular, pathophysiology, to name a few — and now reach towards cutting-edge fields such as molecular imaging, gene therapy, genomics and computational medicine.

**Accreditation**

Sidney Kimmel Medical College is accredited by the Liaison Committee on Medical Education for its medical education program leading to the 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.

*Mr. Sidney Kimmel, whose foundation has donated $110 million to Thomas Jefferson University.*
Admissions Requirements

Application Procedure

Application to the MD/PhD program must be submitted to Sidney Kimmel Medical College Application Service (AMCAS) no later than October 15th. The deadline for the MD program is November 15. The AMCAS application is available online only via the AMCAS Web site (aamc.org/students/amcas).

On receipt of the verified AMCAS application, Thomas Jefferson University will email notification of receipt. Also included will be instructions for completing the Sidney Kimmel Medical College online secondary application with online payment capability. At the SKMC Web site Jefferson.edu/skmc, applicants will find links that preview the application content, important FAQs and software to download the application should you not have the ability to apply online.

The Committee on Admissions will begin reviewing the application when all supplementary materials have been received including:

1. The Sidney Kimmel Medical College Secondary Application Form
2. The non-refundable $80 application fee
3. MCAT scores
4. The required letters of recommendation

Letters of recommendation are required to complete the application. Letters of recommendation are to be transmitted via AMCAS only. Please review the AMCAS letter transmission policy at aamc.org/students/amcas.

We prefer to receive a recommendation from a preprofessional committee. If there is no such committee, letters should be provided by individual faculty members (one letter each from Biology, Chemistry, Physics and Humanities, if possible). Applicants who have been involved in graduate programs are encouraged to provide additional letters from their graduate schools. The deadline for the receipt of letters of recommendation is January 1st.

It is the applicant’s responsibility to see that the application is complete (the non-refundable $80 application fee paid, and the required letters of recommendation received) by the specified deadline. It is also the applicant’s responsibility to provide a current address and a telephone number throughout the application processing period.
Requirements for Admission

The medical profession is a career for those prepared for a lifetime of service to the ill, regardless of diagnosis, and has as its objective the development of professional men and women prepared to adhere to the highest standards of conduct and behavior asked of few others in our society.

Academic and Technical Criteria

Sidney Kimmel Medical College concurs with the concept that certain minimum academic and technical standards are essential for the successful completion of a medical education and for the granting of the degree of Doctor of Medicine.

Applicants should read, understand, and be able to meet the requirements for admission outlined below with or without reasonable accommodations. If there are any questions regarding these standards, contact the Office of Admissions for clarification.

Among the requirements for Admission to Sidney Kimmel Medical College are:

- The ability to analyze, synthesize and solve problems, and reach diagnostic and therapeutic judgments.

- Sufficient use of the senses of vision and hearing and somatic sensation necessary to perform a physical examination using observation, palpation, auscultation and percussion and the ability to execute motor movements reasonably required to provide both general patient care and emergency treatment.

- The ability to relate to patients and to establish sensitive, professional relationships with patients.

- The ability to work as an effective team member of the health care team.

- The ability to communicate in writing and verbally with patients and medical colleagues with accuracy, clarity and efficiency in both routine and emergency conditions.

- The ability to learn and perform certain laboratory and diagnostic procedures.

- The ability to use good judgment in the assessment and treatment of patients.
The ability to accept criticism and to respond by appropriate modification of behavior.

No infectious disease which would prevent performance of essential clinical activities required to complete the curriculum.

The perseverance, diligence and consistency to complete the medical school curriculum and to enter the independent practice of medicine.

A code of professional conduct is in place at Sidney Kimmel Medical College. It embraces ethical standards of professional conduct for the Thomas Jefferson University community, including students, faculty, administrators, and house staff.

**Degree Criteria**

The Medical College Admission Test and a baccalaureate degree from an accredited college or university in the United States or Canada are required. Credit for degrees granted by foreign institutions and for foreign course work must be validated and/or accepted by an accredited U.S. college or university. It is preferable to have courses graded by the traditional grading system rather than by pass/fail grades.

**Course Requirements**

A strong preparation in the sciences basic to medical school studies is advised. A variety of college course formats and combinations, including biology, general and organic chemistry, and physics are a minimum. Courses taken to meet the basic requirements should be, in general, comparable to courses accepted for concentration in these disciplines. Courses taken should be supplemented by laboratory experiences.

Students may take upper level science courses out of educational interest or to fulfill the requirements of their major. Taking additional science courses that cover material taught within the medical school curriculum is not useful to gain admission. If advanced placement credits in required subjects are submitted, additional upper level courses are encouraged.

Breadth of education is expected. The pursuit of some discipline in depth is encouraged. A successful medical student must effectively acquire, synthesize, apply and communicate information. These are skills which can be developed through a great variety of academic disciplines. Studies in the humanities, the social and
behavioral sciences, and the development of effective writing skills are strongly suggested.

Honors courses and independent study or research are encouraged to explore, in depth, an area of knowledge and to provide scholarly experience which will facilitate a lifelong habit of self-education. All academic requirements should be completed prior to matriculation.

**Medical College Admission Test**

The Medical College Admissions Test (MCAT) is required for ALL applicants. The test should be taken no more than three years prior to the time of application. The best time to take the test is in the Spring prior to applying so that your scores are available when you apply. Regular applicants must take the MCAT no later than September 23; special program applicants no later than the last sitting in April-May. All applicants must request that their MCAT scores be sent to the Admissions Office. No one will be considered for interview without MCAT scores. For registration materials, contact your premedical advisor or the MCAT Program Office:

MCAT Program Office  
P.O. Box 4056  
Iowa City, IA 52243-4056  
Phone: 319-337-1357  
aamc.org/students/mcat/registration.htm

**Selection Factors**

From an applicant pool of approximately 10,000, the Committee on Admissions each year selects a class of 266 students. Given the numbers, SKMC receives applications from more candidates meeting the basic requirements than it can possibly accept. Above and beyond the applicants’ academic profile, SKMC looks favorably on applicants who have demonstrated strong interpersonal and intrapersonal competencies, including a service orientation, cultural competence, teamwork skills, strong oral communication, ethical responsibility to self and others, reliability and dependability, resilience and adaptability and the capacity for improvement.

The Committee on Admissions would like to interview every applicant, however, the volume of applications precludes this possibility. Each year approximately 800 applicants are interviewed at SKMC. The interview serves several purposes:
Information can be verified and clarified.

The applicant can explain unique aspects of the application.

The applicant can become better acquainted with the medical school.

Intelect, ability to communicate, personal qualities and motivation can be assessed.

The interview also aids in deciding which applicants will most likely benefit from Thomas Jefferson University’s program and is a requirement for acceptance. A student who has previously attended another medical school and failed academically or been dismissed for unsatisfactory conduct will not be considered for admission.

SKMC is committed firmly to the educational goal of enrolling a diverse body of talented students who will reflect the character of the American people whose health needs the medical profession must serve. Essential in meeting this goal is the recruitment and matriculation of students from groups that are underrepresented in medicine. In addition, recognizing that a diverse environment as well as a diverse educational experience enhances the education of all of its learners and leads to an expertise in providing patient care to a diverse patient population, students who are financially disadvantaged, first generation college-goers or Lesbian, Gay, Bi-Sexual, Transgender, and those Questioning their sexual identity are also a focus of recruitment efforts. The Commonwealth of Pennsylvania enacted a new Medical Practice Act in 1985 (Act 112 of 1985) which specifies the qualifications for a license to practice medicine from the Pennsylvania Board of Medical Education and Licensure. The Board will not issue a license to an applicant who has been convicted of a felony under the act of April 14, 1972 (P.L. 223, No. 64), known as The Controlled Substance, Drug, Device and Cosmetic Act, or of an offense under the laws of another jurisdiction which, if committed in this Commonwealth, would be a felony under the Controlled Substance, Drug, Device and Cosmetic Act. Under most circumstances, admission will not be offered to an applicant with a felony conviction.

Provisions Governing Acceptance of an Applicant

All offers to accept an applicant for admission to Sidney Kimmel Medical College are conditional upon: (1) satisfactory completion of current enrollment; (2) meeting all entrance requirements (including
all academic and technical standards of the College and requirements for licensure); (3) satisfactory medical status; (4) agreement to comply with the rules and regulations of the University, the Honor Code and Shared Code of Professional Values; (5) agreement to accept curriculum changes as approved by the faculty and tuition charges as determined by the Board of Trustees; and a satisfactory criminal background check.

The Commonwealth of Pennsylvania enacted a Medical Practice Act in 1985 (Act 112 of 1985) that specifies the qualifications for a license to practice medicine according to the Pennsylvania Board of Medical Education and Licensure. The Board will not issue a license to an applicant who has been convicted of a felony under the act of April 14, 1972 (P. L. 223, No. 64), known as The Controlled Substance, Drug, Device, and Cosmetic Act, or of an offense under the laws of another jurisdiction which, if committed in this Commonwealth, would be a felony under The Controlled Substance, Drug, Device, and Cosmetic Act.

Transfer/Advanced Standing Students

A limited number of applications for transfer into the third-year class may be considered (for compelling reasons) from students who are currently enrolled and satisfactorily completing their first two years in an LCME accredited medical school, and in those situations where institutional agreements exist. Transfer students must pass the United States Medical Licensing Examination Step 1. Applications for transfer should be requested in writing after December 1st.

For students with exceptional backgrounds who may be seeking advanced standing, action by the Admissions Committee provides general acceptance only. The Committees on Student Promotion and Curriculum must then review the candidate’s qualifications and credentials to determine appropriate placement in the program.

Early Decision

Sidney Kimmel Medical College participates in the Early Decision Program (EDP). Students participating in this program must submit application and all credentials no later than August 1st of the application year to AMCAS. A decision will be made concerning each application by October 1st so that candidates who are not offered places in the class have adequate time to seek acceptance to other medical schools. The EDP program should be a consideration by those applicants who strongly desire to attend Thomas Jefferson University and have an excellent academic record.
Cooperative Programs

SKMC and the Pennsylvania State University jointly select qualified high school seniors to earn both the BS and MD degrees in seven years. Students spend three years at the University Park campus and four years at SKMC. Post Baccalaureate Linkage programs exist between Thomas Jefferson University and Bryn Mawr College. These programs are designed to meet the needs of college graduates who have decided to pursue careers in medicine.

Each year, SKMC provides at least twenty places for Delaware residents in the first year class as part of a medical-education program involving the Delaware Institute of Medical Education and Research, The University of Delaware and The Delaware Medical Center. Sidney Kimmel Medical College is the official Medical School of Delaware.

The Physician Shortage Area Program (PSAP) admits students from rural areas and small towns who are committed to practicing in a similar area. Priority will be given to those planning to practice family medicine, although applicants planning other specialties, or unsure of their future specialty, will also be given consideration. Since the program began in 1974, SKMC has trained more than 300 PSAP physicians, and the program has received national recognition in the New England Journal of Medicine and the Journal of the American Medical Association. Special consideration for admission and financial aid is given to students who have grown up in, or have substantial ties to a rural area or small town, and are also committed to practicing in a similar location. Priority is given to Pennsylvania and Delaware residents, and to applicants enrolled at Allegheny College, Bucknell University, Franklin & Marshall College, Indiana University of Pennsylvania, Pennsylvania State University, the University of Delaware, and the University of Scranton.

All incoming PSAP students are provided with an advisor in the Department of Family and Community Medicine at the beginning of medical school. These advisors provide curricular and career guidance, and are available as mentors throughout all four years at Thomas Jefferson University. PSAP students also take at least one of their required third-year clerkships in a smaller community outside the Philadelphia metropolitan area (currently the family medicine clerkship at Latrobe Area Hospital, or the family medicine, internal medicine, general surgery, or obstetrics/gynecology clerkships at York Hospital). They are also encouraged to take at least one of their senior rotations or electives in a rural area or small town, and are given priority to take their senior-year outpatient subinternship.
in family medicine at a preceptorship in a rural location. Upon graduation, PSAP students take a residency of their choice, and are then expected to practice in a rural area or small town, preferably in Pennsylvania or Delaware.

The Medical Scholars Program (MSP), an educational collaboration between the University of Delaware and Sidney Kimmel Medical College links college to medical school with an early admission process for qualified students. The first group of MSP students matriculated at SKMC in 1994.

Sidney Kimmel Medical College, Admissions Office, 1015 Walnut Street, Suite 110, Philadelphia, PA. Phone: 215-955-6983.

Registration

All students must register before the beginning of the school year. The University Office of the Registrar will inform each student of the manner, time and place of registration, by mail and/or email, in advance of the registration period.

Students assigned to affiliated hospitals for their first teaching block, when travel time to the hospital is more than two hours, should contact the Office of Student Affairs to make appropriate arrangements concerning their class Orientation program obligation.

A student who fails to complete registration, including payment of all financial obligations at the date designated, will be deprived of the privileges of the College. Reinstatement within one week of the appointed date is obtained by acquiring the permission of the Dean after the student has made provision for the financial obligations to be met, including the payment of the late fee of $25.
Standard Application Procedure

Timetable of Application and Acceptance for the First-Year Class:

- **Filing of AMCAS application**
  
  June 1st - November 15th
  
  June 1st - October 15th (MD/PhD Program)

- **Receipt of Supporting Materials**
  
  January 1st

- **School application fee: $80**
  
  (non-refundable)

- **Decision notice to applicants**
  
  October 15th, until class is filled

Application Procedure for Early Decision Program:

- **Filing of AMCAS Application**
  
  June 1st - August 1st

- **Decision to EDP Applicants**
  
  October 1st

- **Applicant’s response to acceptance offer**
  
  Maximum time: two weeks

- **Deposit to hold place in class (applied to tuition)**
  
  $100, due no later than April 30th
  
  Deposit refundable prior to April 30th
Expenses and Financial Aid

Expenses for the Academic Year 2015-2016

<table>
<thead>
<tr>
<th>Expense</th>
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<td>Tuition and Fees</td>
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<td>Books and Supplies</td>
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</tr>
<tr>
<td>Transportation</td>
<td>$500</td>
</tr>
<tr>
<td>Medical/Dental</td>
<td>$450</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$4,681</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$1,375</td>
</tr>
<tr>
<td>Estimated Loan Fees</td>
<td>$482</td>
</tr>
<tr>
<td>Total</td>
<td>$80,349</td>
</tr>
</tbody>
</table>

Expenses

An estimate of minimum expenses for a first-year student will be approximately $80,349 for the 11-month academic year. Income from student fees provides about 25 percent of the SKMC’s total revenue, with the other 75 percent coming from state, federal, and institutional resources. Sidney Kimmel Medical College tuition rates are reset annually. For the 2015-2016 academic year, the comprehensive fee is $54,161. This fee covers tuition and other fees including library and technology fees.

The Board of Trustees reserves the right to amend or add to the regulations concerning fees and method of payment, and to make such changes applicable to present as well as future students in the college.
Financial Aid

The primary responsibility for financing the cost of medical education rests with the student and family. However, it is recognized that increasing numbers of students and their families are unable to meet medical school costs without some type of assistance.

The demonstration of need is the key factor in all financial aid awards. Determination of need is based upon confidential analysis of information provided by the student and family to the designated Free Application for Federal Student Aid (FAFSA) Service.

Once need is established and the resources of the student and family are clearly identified, the student is directed to obtain a minimum of $10,000 in the Federal Unsubsidized Stafford Loan. If need exists beyond this amount, Thomas Jefferson University will attempt to meet a portion of this need from Thomas Jefferson University’s loan and grant/scholarship funds. The University Office of Student Financial Aid also offers student information about the Federal Grad PLUS loan and alternative (loan) programs offered through public and private agencies.

On or about January 15th, Financial Aid Application information is emailed to all accepted students. Students accepted after January 15th will be sent an application email within two weeks of their acceptance date. Instructions for accessing the on-line financial aid application are included with this communication. Please note that only accepted students are able to access the on-line financial aid application. Late accepts should file applications within two weeks of acceptance.

To further assist in the long-term financing of medical-school education, Financial Planning Seminars are held throughout the year. A seminar for freshmen is held during orientation to acquaint incoming students with effective budgeting and debt-management techniques. In addition, the University Office of Financial Aid offers a seminar series, “Building a Financial Plan for School and the Future,” that covers topics of debt management, insurance planning, mortgages, investment planning and factors to consider before signing a professional contract. Students are encouraged to contact the University Office of Student Financial Aid to discuss all financial aid matters.
Medical Insurance

Health insurance is required of all students attending SKMC. If not covered by an equivalent policy of a parent or spouse, students are required to purchase the coverage offered by the medical school. Coverage through the Thomas Jefferson University student plan will be billed in its equal halves, payable in August and December. Coverage through Thomas Jefferson University's student policy is also available for dependents at an additional cost.

More Information

For more information on financing a medical school education, as well as types of scholarships available at SKMC, please visit the financial aid Web site. In addition, the University Office of Financial Aid has professionals on staff who are happy to answer your questions and offer advice.

University Office of Financial Aid
1015 Walnut Street, Suite 115, Curtis Bldg.
Philadelphia, Pennsylvania 19107
215-955-2867
Financial.Aid@jefferson.edu
Jefferson.edu/financial_aid
The Educational Program

Mission Statement

Sidney Kimmel Medical College is committed to: educating physicians who will form and lead the integrated healthcare delivery and research teams of tomorrow; discovering new knowledge that will define the future of clinical care through investigation from the laboratory to the bedside, and into the community; and setting the standard for quality, compassionate and efficient patient care for our community and for the nation. Thomas Jefferson University recognizes that a diverse community is imperative to achieving excellence in patient care, education, and research. As we carry out our mission, we are committed to the highest standards of professionalism and aspire to be a community of discovery, learning, and inclusion.

Notice of Equal Opportunity

Thomas Jefferson University is committed to providing equal educational and employment opportunities for all persons without regard to race, color, national or ethnic origin, marital status, religion, sex, sexual orientation, gender identity, age, disability or veteran’s status. The consideration of factors unrelated to a person’s ability, qualifications and performance is inconsistent with this policy. Any person having inquiries or complaints concerning Thomas Jefferson University’s compliance with Title VI, Title IX, the Age Discrimination Act of 1975, the Americans with Disabilities Act, or Section 504 of the Rehabilitation Act is directed to contact their Student Affairs Dean or Human Resources – Employee Relations, who have been designated by Thomas Jefferson University to coordinate the institution’s efforts to comply with these laws. Any person may also contact the Assistant Secretary for Civil Rights, U.S. Department of Education, Washington, D.C. 20202, or the Director, U.S. Department of Education, Office for Civil Rights, Region Three, Philadelphia, Pennsylvania, regarding the University’s compliance with the equal opportunity laws.

The Thomas Jefferson University community is deeply committed to upholding the ethical standards and professional values of Medicine. The sections that follow, which have been adopted by the students, the Executive Council and the Professorial Faculty, are our expression of this commitment.
Professionalism and the Shared Code of Values

The Core Values of Sidney Kimmel Medical College

At Thomas Jefferson University, we are committed to the highest principles of professionalism. We aspire to be a community that is not only academically and fiscally successful, but also a community of discovery, learning, caring, and sharing. The core values of professionalism guide our actions. At Thomas Jefferson University:

≈ Our word is our bond (Integrity).
≈ We respect each other and all with whom we come into contact (Respect).
≈ We contribute to society’s intellectual, cultural, and spiritual well-being to the highest possible extent (Social Responsibility).
≈ We recognize that diversity and excellence go hand-in-hand, enhancing our education and patient care and welcome our ability to interact with other people (Diversity).
≈ We care about and attempt to ameliorate the suffering and pain of illness; we care about and attempt to ameliorate the trials and tribulations of the Thomas Jefferson University family (Compassion).
≈ We are committed to excellence and the life-long pursuit of new knowledge and personal and professional growth (Excellence).
≈ We aspire to do the right thing, for the right reason, even if it involves pain or sacrifice (Altruism).
≈ We are committed to each other and to those we serve. We work together to achieve our mission and goals (Collaboration).
≈ We are committed to the prudent use of the resources made available to us by the hard work of the faculty, the tuition of our learners, the support of the public, and the philanthropic giving that sustains us and helps us grow (Stewardship).
Professionalism: Faculty Commitment

At this time when the medical profession is beset by an explosion of technology, changes in market forces, serious problems in health care delivery, conflicts of interest, and the threat of bioterrorism, the Faculty of Sidney Kimmel Medical College reaffirms its commitment to professionalism. Understanding that at its core the medical profession places the welfare of the patient above self-interest, we accept our responsibility to educate future physicians in the values and ethical standards of medical professionalism. We acknowledge that we can best achieve this by serving as role models and advocates while maintaining professional relationships based on mutual respect and concern. We must promote an atmosphere of cooperation and learning, of intellectual openness, honesty, and sincerity in order to constantly protect and redefine and make meaningful our core values and covenant of trust with society.

Professionalism: The Teacher-Student Relationship

The faculty of Sidney Kimmel Medical College is committed to principles of mutual respect and trust between teachers and students. Training future physicians who are entrusted with the lives of others must be based on faculty embodying the values of professionalism. A critical part of the values of professionalism in the teacher-student relationship is that faculty should not use their professional position to engage in romantic or sexual relationships with students. Faculty should be role models and mentors in their interaction with each other, students, nursing staff and other health professionals, as well as patients. In all of these relationships, the faculty acts to enhance the learning experience based on shared professional values.

Professionalism: Self-Regulation

As part of its contract with society, Medicine is given the privilege of self-regulation. As part of self-regulation, faculty and students must contribute to the spirit and principles of the Sidney Kimmel Medical College Honor Code. The faculty and students have individual responsibility and community responsibility, to uphold the Honor Code.
The Sidney Kimmel Medical College
Honor Code

As Thomas Jefferson University students and faculty we seek to establish a community based on honor, integrity and awareness of others. Our commitment to this community begins with our first day of professional or educational association with Sidney Kimmel Medical College when we sign a pledge to uphold the values and rules of the Honor Code that follows:

As faculty, residents, fellows, and medical students, we pledge to embrace the academic and social integrity on which Thomas Jefferson University was founded, pursuing honesty, equality and fairness in all aspects of our lives. This includes not seeking an unfair advantage over our peers, teachers, students, residents, fellows or any other member of the Thomas Jefferson University community. These goals are dependent on our personal concern for ourselves and one another, as well as our collective concern for the maintenance of the community standards that are reflected in the Code.

The Honor Code assumes that all faculty, residents, fellows, and students conduct themselves in an ethical and professional manner. Altruism, accountability, commitment to excellence, duty to serve, honor, integrity and respect for others are essential characteristics of a physician. In addition, the code is dependent on the collective desire of all members of the academic community to prevent and deter violations, rather than on proceedings to impose penalties after violations have occurred. If violations do occur within this system, each member of the community is expected to support and uphold all aspects of the code.

**Community** — A goal of each member of the college is to foster an environment of trust and cooperation with respect for the work and efforts of others. When we speak of community we imply the student body, the faculty, the staff, and the administration, each of which contributes to the combined concept of community.

**Academic Integrity** — We seek to enhance our knowledge of medicine and achieve excellence in our time spent at Thomas Jefferson University but not at the cost of honesty, integrity and trust, all integral aspects to the development of a physician.

**Social Integrity** — Thomas Jefferson University is dependent on equality among all its members, regardless of race, culture, religion, gender, or sexual orientation. Each individual should be treated with equal respect by his or her peers, faculty and staff.
Responsibility — All members of the college must be willing and encouraged to discuss with their peers and all members of the community any action or issue that appears to be unacceptable and take the necessary actions in a timely manner to address the situation. The failure to deal with the breach in professional conduct not only jeopardizes the strength of the code but also puts the observer in direct violation of the code.

Mediation — Resources exist for students, faculty and staff to meet with other people within the Thomas Jefferson University community to work out any differences and disagreements with the help of a third party. If these efforts fail to reach a resolution, further resources through official college channels can be used to review any disagreement and determine the appropriate course of action.

Each year at Orientations and the White Coat Ceremony, the students and faculty recite the following:

Shared Professional Values of Sidney Kimmel Medical College

As a physician or future physician, I recognize the implicit trust placed in me by patients and society. Therefore, I commit to embodying the highest standards of civility, honesty, and integrity in all aspects of my personal and professional life. These standards include my interpersonal relationships, my academic pursuits, and my medical practice. I will strive to communicate sincerely and effectively with my patients and their families. I will treat everyone compassionately, providing respect and protection of privacy, dignity, and individuality. As part of the trust that society has placed in me, I will advocate for outstanding patient care. I will endeavor to work effectively with other members of the health care team to provide the safest and highest quality patient care. Because I recognize limitations in my knowledge and skills, I will commit to lifelong learning to improve my ability to care for my patients.
The Curriculum

The curriculum at Sidney Kimmel Medical College has been developed to provide learning opportunities that enable medical students to acquire fundamental knowledge, develop professional attitudes and basic skills, and appreciate principles relevant to healthcare in the context of the community. We strive to foster in each student the lifelong desire and expertise to seek and evaluate new information both in pursuit of solutions to medical problems, and to educate our patients and colleagues. Our aim is to enable each student, as part of a larger healthcare team, to practice with clinical competence and effectively utilize healthcare resources. We welcome our students into the profession of medicine, and our goal throughout the four years of education and training is to facilitate each individual’s professional growth and development. We commit to embodying the highest standards of civility, honesty, and integrity in all aspects of our personal and professional lives.

In recent years, curricular changes have been introduced to keep pace with the rapid expansion in scientific knowledge and dramatic changes in our healthcare delivery system. The curriculum balances the acquisition of a “core” of scientific information and the development of demonstrable communication and interpersonal skills and in medical problem-solving. An exposure to medical humanities has been added early in the curriculum in acknowledgment of the importance of keen observation skills, cultural competence and emotional intelligence.

The primary goals of the curriculum at Sidney Kimmel Medical College are to: (1) provide each student with a core curriculum that contains the sine qua non that should pertain to all physicians; (2) provide each student with advanced curriculum opportunities in order to explore in greater depth areas of basic and clinical medical sciences; and (3) enable the future physician to develop a humanistic, collaborative and scientific approach toward prevention and the care of people with medical problems.

Additional goals are to: (1) teach students the tentative nature of scientific conclusions; (2) encourage students to assume responsibility for their own education and to diminish their dependence on the teacher as a sole source of information; (3) encourage students to think critically and independently within the framework of social responsibility; and (4) encourage students to develop a logical approach to the analysis and management of clinical problems and (5) prepare students to function effectively in our complex health care system.
Recognizing that entering students have multiple backgrounds and goals and will pursue varied careers, the curriculum at Thomas Jefferson University incorporates sufficient breadth and flexibility to address individual educational needs.

One of the biggest challenges facing students in adapting to medical school curriculum is absorbing and understanding the information presented to them. Even though the quantity of material is challenging, it is nonetheless a careful distillation of available information in basic and clinical sciences into a core program. Students will find that the material is intrinsically no more difficult from a conceptual viewpoint than that presented in any advanced undergraduate college science course. The only difference is the amount of material presented during the medical curriculum. Success in mastering the material demands that students develop excellent study habits and always keep current on class material.

The four-year curriculum has been designed to achieve these goals. In the first year, the biomedical sciences emphasize normal human structure and function. These topics are taught in conjunction with the first phase of the medical practice curriculum that stresses the relationships of these sciences to professional development, systems-based care, evidence-based medicine, the biopsychosocial model of health and clinical skills. The second year shifts the science focus to the pathophysiology of disease and methods used to diagnose and treat illness. The medical practice curriculum continues with added emphasis on the development of “bedside” skills. The third and fourth years are an immersion in clinical medicine, and primary and specialty care in outpatient and inpatient settings. Emphasis is placed on core medical specialties with many opportunities for electives. All students revisit the biomedical sciences during the third and fourth years, in core clerkships, during the advanced basic science courses and by choosing to conduct independent research.

Medical school is the first formal step in the lifelong process of medical education. The skills developed in meeting the challenges of adjusting to medical school will be honed as each individual progresses through residency training and into a career in medicine. There is no one formula for success. Each individual must take responsibility for his or her own mastery of the curriculum and professional development. The faculty, administration, staff, and fellow students are here to guide you through this challenging and rewarding experience.
Sidney Kimmel Medical College Competencies*

(revised June 2014)

Professionalism and Altruism

By the time of graduation, all students must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. This includes:

1. An understanding of the ethical theory and the major ethical dilemmas/conflicts in medicine including those faced by students.

2. A commitment to compassionate treatment of patients, and respect for their privacy, dignity, and individuality. This includes basic courtesies such as wearing professional attire and timeliness.

3. A commitment to honesty and integrity in all aspects of professional life (clinical, decision making, scientific pursuits, and interpersonal interactions).

4. An understanding of the need to collaborate in individual patient care as demonstrated by respect for the unique cultures, values, roles, responsibilities and expertise of other health professionals.

5. A commitment to advocate for quality patient care for all people, with sensitivity to diversity in gender, ability, age, culture, race, religion, and sexual orientation.

6. An understanding of the challenges to medical professionalism posed by the conflicts of interest inherent in various financial and organizational arrangements within the practice of medicine.

7. An understanding of the responsibility to provide fiscally-responsible health care.

8. A commitment to provide care to patients who are unable to pay and to be advocates for access to health care for the traditionally underserved populations.
Medical Knowledge

By the time of graduation, all students must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. This includes:

1. Knowledge of the normal structure and function of the body (as an intact organism) and each of its major organ systems.

2. Knowledge of the molecular, cellular, biochemical, and physiologic processes that are important in maintaining the body’s homeostasis.

3. Knowledge of the multiple causes (e.g. genetic, developmental metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, psychogenic, and traumatic) of maladies and the ways in which they affect the body (pathogenesis).

4. Knowledge of the altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions.

5. An understanding of the power of the scientific method in establishing the cause of disease, and in evaluating the efficacies of traditional and nontraditional therapies.

6. Knowledge of the important environmental, economic, psychological, social, and cultural factors that contribute to the development, chronicity and mitigation of maladies.

7. Knowledge of the natural history and epidemiology of common/important illnesses within defined populations, and the individual and systematic strategies for health promotion and disease prevention.

8. The knowledge and ability to identify factors that place individuals at risk for disease, injury, or disability and to select appropriate methods for screening or early detection, and to determine strategies for responding appropriately.

9. The ability to explain the roles and responsibilities of other care providers, and how the team works together to provide optimal care.

10. Knowledge of the process and value of research in the basic and clinical sciences.
Patient Care

By the time of graduation, all students must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. This includes:

1. The ability to obtain an accurate, relevant medical history that covers all essential aspects of the history, including information related to age, gender, functional status, and socioeconomic status.

2. The ability to perform both a complete and focused physical examination, including a mental status examination.

3. The ability to perform routine technical procedures.

4. The ability to appropriately select and interpret diagnostic tests used for screening and diagnosis of common/important illnesses, taking into account the cost and availability.

5. The ability to reason deductively in solving clinical problems.

6. The ability to care for patients with common conditions (acute, chronic and terminal), taking into consideration benefits, risks, functional status and patient preferences.

7. The ability to recognize patients with immediately life-threatening (e.g. cardiac, pulmonary, or neurological) conditions regardless of etiology and to institute appropriate initial therapy.

8. The ability to relieve pain and ameliorate the suffering of patients, including the provision of end-of-life care.

9. The ability to recognize ethical dilemmas and develop a frame work for resolution.

10. The ability to identify medico-legal risks and resources.

Interpersonal and Communication Skills

1. The ability to communicate effectively, both orally and in writing, with patients, patients’ families, colleagues, and others with whom physicians interact in the professional setting.

2. The ability to maintain comprehensive, timely, and legible medical records
3. The ability to work within a patient care team to provide safe and effective care by striving for a common understanding of information, treatment, and care decisions. This is accomplished by:
   a. Listening actively
   b. Communicating effectively
   c. Encouraging ideas and opinions of other team members
   d. Expressing one's knowledge and opinions with confidence, clarity and respect.

4. The ability to use understanding of the patient-doctor relationship in a therapeutic, supportive and culturally sensitive way for patients and their families.

5. The ability to critically evaluate the medical literature and to seek opportunities to expand understanding and appreciation of scientific discoveries and their applications.

6. The ability to effectively teach patients, families, colleagues and other health professionals.

**Lifelong Learning**

Medical school is the first formal step in the lifelong process of medical education. To build and sustain professional competence, by the time of graduation, all students must have:

1. The capacity to recognize limitations in one's own knowledge and clinical skills, to seek advice and to use constructive feedback to improve performance.

2. The capacity to recognize one's own attitudes, including personal strengths, limitations, and vulnerabilities, to employ appropriate coping strategies and seek assistance when needed.

3. An understanding of the need to be continuously setting personal learning and achievement goals and to engage in lifelong learning to stay abreast of relevant advances in medical care.

4. The ability to retrieve (from electronic databases, electronic health records, and other resources), manage, and use biomedical information for solving problems and making appropriate clinical decisions for individuals and populations.
5. The ability to use “lessons learned” in the classroom and patient care setting (from patients, families, staff, peers, residents, faculty, etc) to guide one’s own professional development

**Systems-based Practice**

Students must demonstrate a basic understanding of the impact that health care delivery systems have on patient care. This includes:

1. Basic knowledge of the various approaches to the organization, financing and delivery of health care at the national and state levels.

2. Basic knowledge regarding the impact of regulatory bodies (ACGME, The Joint Commission) on medical practice.

3. An understanding of the impact of system-based errors on patient care and of methods available to identify and address these errors.

4. An understanding of the impact of cost on patient care in the hospital and outpatient settings from the individual and population perspectives.

5. The skills to work effectively in various health care delivery settings and systems.

6. An understanding of the attributes of highly functioning teams and the responsibilities and practices of effective team membership and effective team leadership.

*Developed and adopted in 2000 with reference to the AAMC Medical School Objectives Project Guidelines (2000); revised 2006; revised in 2009 with reference to the ACGME Common Program Requirements (2007); revised in 2012 with reference to the AAMC Core Competencies for Inter-professional Collaborative Practice (2011).*
The Academic Calendar

First Year
(Class of 2019)

July 27, (2015), Monday  Registration 8:00 a.m.-12:00 p.m.
July 27, Monday  First Payment comprehensive fee due at registration
July 27-31, Monday-Friday  Orientation Week
July 31, Friday  White Coat Ceremony

First Teaching Block (Human Form and Development & ICM-1)
August 3, Monday  Course begins 8:00 a.m.
September 7, Monday  Labor Day Holiday
October 23, Friday  Course ends 5:00 p.m.

Second Teaching Block (Molecular and Cellular Basis of Medicine & ICM-1)
October 26, Monday  Classes begin 8:00 a.m.
November 25, Wednesday  Thanksgiving Holiday begins 12:00 p.m.
November 30, Monday  Classes resume 8:00 a.m.
December 18, Friday  Winter Recess Begins 5:00 p.m.
January 4, (2016), Monday  Classes resume 8:00 a.m.

January 4, Monday  Second payment comprehensive fee due
January 18, Monday  Martin Luther King Holiday
January 22, Friday  Course ends 5:00 p.m.

Third Teaching Block (The Systems & ICM-1)
January 25, Monday  Course begins 8:00 a.m.
March 7-11, Monday-Friday  Spring Break
April 20, Wednesday  Course ends 5:00 p.m.

Fourth Teaching Block (Neuroscience)
April 25, Monday  Course begins 8:00 a.m.
May 30, Monday  Memorial Day holiday
June 3, Friday  Third Teaching Block ends 5:00 p.m.
August 15, Monday  Summer Recess begins 5:00 p.m.
Summer Recess ends 8:00 a.m.

Calendar dates are subject to change.
# Second Year

**(Class of 2018)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 17, (2015) Monday</td>
<td>Second Year Orientation</td>
</tr>
<tr>
<td>August 17, Monday</td>
<td>First Payment comprehensive fee due</td>
</tr>
<tr>
<td>August 18, Tuesday</td>
<td><strong>First Teaching Block (Foundations of Pathology &amp; Pharmacology)</strong></td>
</tr>
<tr>
<td>September 4, Friday</td>
<td>Course begins 8:00 a.m.</td>
</tr>
<tr>
<td>September 7, Monday</td>
<td>Labor Day holiday</td>
</tr>
<tr>
<td>September 8, Tuesday</td>
<td><strong>Second Teaching Block (Immunity, Infection &amp; Disease &amp; ICM-2)</strong></td>
</tr>
<tr>
<td>November 6, Friday</td>
<td>Course begins 8:00 a.m.</td>
</tr>
<tr>
<td>November 9, Monday</td>
<td><strong>Third Teaching Block (Clinical Skills &amp; Foundations of Clinical Medicine &amp; ICM-2)</strong></td>
</tr>
<tr>
<td>November 25, Wednesday</td>
<td>Thanksgiving Holiday begins 5:00 p.m.</td>
</tr>
<tr>
<td>November 30, Monday</td>
<td>Classes resume, 8:00 a.m.</td>
</tr>
<tr>
<td>December 18, Friday</td>
<td>Winter Recess Begins 5:00 p.m.</td>
</tr>
<tr>
<td>January 4 (2016), Monday</td>
<td>Classes resume 8:00 a.m.</td>
</tr>
<tr>
<td>January 4, Monday</td>
<td>Second payment comprehensive fee due</td>
</tr>
<tr>
<td>January 18, Monday</td>
<td>Martin Luther King Holiday</td>
</tr>
<tr>
<td>March 4-11, Monday-Friday</td>
<td>Spring Break</td>
</tr>
<tr>
<td>May 6, Friday</td>
<td>Course ends 5:00 p.m.</td>
</tr>
<tr>
<td>May 9- June 24</td>
<td>Second Year Comprehensive Examination/USMLE Step 1 Review period</td>
</tr>
<tr>
<td></td>
<td>End of Second Year</td>
</tr>
<tr>
<td>July 5, Monday (anticipated)</td>
<td>Clinical Curriculum Begins</td>
</tr>
</tbody>
</table>

*Calendar dates are subject to change.*
## Clinical Curriculum 2015 — 2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 6, 2015 Monday</td>
<td>Orientation – Office of Student Affairs</td>
</tr>
<tr>
<td></td>
<td>Pre-Clerkship Review – TBA</td>
</tr>
<tr>
<td></td>
<td>Class of 2016</td>
</tr>
<tr>
<td></td>
<td>Class of 2017</td>
</tr>
<tr>
<td>July 6, 2015 Monday</td>
<td>First payment comprehensive fee due</td>
</tr>
<tr>
<td>December 18, 2015 Friday</td>
<td>Holiday begins 5:00 p.m.</td>
</tr>
<tr>
<td>January 4, 2016 Monday</td>
<td>Holiday ends 8:00 a.m.</td>
</tr>
<tr>
<td>January 4, 2016 Monday</td>
<td>Second payment comprehensive fee due</td>
</tr>
<tr>
<td>January 18, 2016, Monday</td>
<td>Martin Luther King Holiday</td>
</tr>
<tr>
<td>TBA</td>
<td>Commencement Exercises</td>
</tr>
<tr>
<td>June 17, 2016 Friday</td>
<td>All Phase I must be completed at the conclusion of 15-08 for the Class of 2017</td>
</tr>
</tbody>
</table>

## Clinical Curriculum 2016 — 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 5, 2016 Monday</td>
<td>Orientation – Office of Student Affairs</td>
</tr>
<tr>
<td></td>
<td>Pre-Clerkship Review – TBA</td>
</tr>
<tr>
<td></td>
<td>Class of 2017 – Time and location to be announced</td>
</tr>
<tr>
<td></td>
<td>Class of 2018 – Time and location to be announced</td>
</tr>
<tr>
<td>July 5, 2016 Monday</td>
<td>First payment Comprehensive Fee due</td>
</tr>
<tr>
<td>December 16, 2016 Friday</td>
<td>Holiday begins 5:00 p.m.</td>
</tr>
<tr>
<td>January 3, 2017 Monday</td>
<td>Holiday ends 8:00 a.m.</td>
</tr>
<tr>
<td>January 3, 2017 Monday</td>
<td>Second payment comprehensive fee due</td>
</tr>
<tr>
<td>January 16, 2017, Monday</td>
<td>Martin Luther King Holiday</td>
</tr>
<tr>
<td>TBA</td>
<td>Commencement Exercises</td>
</tr>
<tr>
<td>June 16, 2017 Friday</td>
<td>All Phase I must be completed at the conclusion of 16-08 for the Class of 2017</td>
</tr>
</tbody>
</table>
The First Year Curriculum 2015 – 2016

The academic year for the first-year students at Sidney Kimmel Medical College consists of 40 weeks for a total of 66 credits. (Course descriptions start on page 85.)

Course Calendar

**Block I**

Introduction to Clinical Medicine I (Full Year)

**Block II**


**Block III & IV**

Systems I: Medical Physiology and Microscopic Anatomy – IDPT. 105  Feb. – June

The Systems II: Neuroscience – IDPT. 150

The Second Year Curriculum 2016 – 2017

The academic year for the second year students at Sidney Kimmel Medical College consists of 36 weeks for a total of 66 credits. (Course descriptions start on page 85.)

Course Calendar

**Block I**

Infection, Immunity and Disease – MICR. 201  Sept. – Nov.
Introduction to Clinical Medicine II* – IDPT. 201  Sept. – April

**Block II**

Clinical Skills/Physical Diagnosis – IDPT. 204  Nov. – May
Foundations of Clinical Medicine – IDPT. 202  Nov. – May
Introduction to Clinical Medicine II* – IDPT. 201  Sept. – April

*Half day per week
The First-Year Core Curriculum

Block I

ANAT. 105  Human Form and Development
(Drs. Schmidt and Spudich)
Credits 16. Maximum enrollment: 265

This is a foundational course emphasizing key concepts in human development and gross anatomy with a clear focus on the anatomic relationships of structures and the clinical importance of those relationships. All anatomic regions are covered using both lectures and dissections approaches and proceed as follows: back, thorax, abdomen, pelvis and perineum, lower limb, head and neck and upper limb. In addition to didactic lectures, self-paced, online imaging (MRI, CT and X-ray) modules and sessions introducing to clinical skills and surface anatomy with the use of standardized patients supplement the course. The application of regional anatomy in the diagnostic thought process is modeled for the students by Thomas Jefferson University physicians through a series of clinical correlations interspersed thorough the course. Lab sessions provide each student the opportunity to verify all they have been taught by working through a full dissection. This hands-on approach is supplemented by the use of a digital dissector (VH Dissector Pro), available campus wide that also focuses on sectional anatomy and allows ample opportunities for the student to review. Human development is taught as a distinct block within the course and is delivered in a systems based approach. Students are introduced to the basic embryology of each system as well as clinically relevant anomalies and potential teratogens. All content is delivered electronically using numerous educational technologies (i.e. iCE@TJU, ExamSoft and Nearpod). Along with the SKMC Competency concerning medical knowledge, Human Form and Development also addresses other competencies like Professionalism/Altruism and Communication Skills by teaching students to “dissect with respect” and to build functional teams through peer-teaching and constructive review. This course is taught concurrently with Introduction to Clinical Medicine.

Block II

BIOC. 105  Molecular and Cellular Basis of Medicine
(Drs. Ronner, Fortini, Hoek, and Menko)
Credits 16.

This core course presents basic concepts from the fields of molecular biology, genetics, cell biology, biochemistry, and cell physiology as they
apply to current and future medical practice. Material is presented in lectures and problem-solving sessions with a case-based learning component. Topics include: DNA and RNA structure and function; genetics; protein structure; cellular structures; cell-cell communication; cell cycle; cytogenetics; stem cell biology; cancer; cancer genetics; blood; metabolism of carbohydrates, proteins, lipids, amino acids, and nucleotides; diabetes; osmotic forces; membrane potentials; action potentials; and synaptic transmission. This course is taught concurrently with Introduction to Clinical Medicine and serves as a foundation for the Block 3 Tissues and Organ Systems course, the Block 4 Neuroscience course, and courses in the second year.

**Block III/IV**

**IDPT. 105 Systems I: Medical Physiology and Microscopic Anatomy**  
(Drs. Siegman and Grunwald)  
Credits 16.

This course presents a coordinated discussion of normal structure and function of the human body at the tissue, organ-system and integrative regulatory level. Presentations of the microscopic anatomy of tissues and organ system precede discussions on the physiologic function and regulation of those tissues and systems. Microscopic Anatomy topics include: tissues (i.e., epithelium, connective and supportive tissues), muscle, nerve, blood, as well as tissues of the gastrointestinal, cardiovascular, immune, cutaneous, respiratory, renal, endocrine and reproductive systems. In addition, there is an introduction to histopathology at the systems level. Topics in Medical Physiology include the autonomic nervous system, smooth, skeletal and cardiac muscle function and regulation, gastrointestinal, cardiovascular, pulmonary, renal, exercise and endocrine physiology as well as acid-base and temperature regulation. Clinical Correlation lectures are presented for each physiological system. Teaching is done by lecture, video demonstrations, small group digital microscopy labs, computer simulations, and problem-solving sessions.

**IDPT. 150 The Systems II: Neuroscience**  
(Dr. Brainard)  
Credits 6.

The first year ends with a six week section dedicated to the morphology (gross and microscopic) and function of the human nervous system with applications to clinical medicine. Topics include: anatomy and physiology of the brain and spinal cord, neurotransmitters, sensory and motor pathways, special senses, suprasegmental and cortical functions. Teaching is done in lectures, patient presentations in Grand Rounds format, small group laboratory exercises, small group clinical skills
sessions, and small group case studies. This course is team taught in collaboration with eleven basic science and clinical departments.

**Introduction to Clinical Medicine I**  
(Drs. Jerpbak and McNett)  
Credits 12.

The first year of medical school is a critical and pivotal time in the professional development of a physician. It is during this year that the life-long learning requisite to providing all patients with excellent medical care begins. This course is designed to introduce students to the tools needed to function skillfully in our evolving health care environment, as a clinician and as an integral part of the health care team. Topics in this course include professionalism, medical ethics, normal growth and development through the life cycle, behavioral science, addictions, sexuality and gender-based medicine, the US health care system, violence and abuse, evidence-based medicine, cultural and bias in medicine, diversity, and interprofessional education. Clinical skills training include history-taking, communication and interpersonal skills, and basic physical exam skills. Educational venues include the classroom, small group settings, the clinical skills center, office-based practices, hospitals, and the community. Small group and other interactive teaching methods provide ample opportunity for active, collegial learning and reflection. This course provides the basis for clinical practice and weds the art of medicine with the science of medicine.

**Humanities at Thomas Jefferson University**

The Thomas Jefferson University Year 1 Humanities Program is designed to introduce all freshmen to the rudiments of the various humanistic ‘dialects’, including visual arts, music, theater, dance, poetry, cinema, history of medicine and self-reflection. We also offer a workshop on mindfulness and relaxation. In recognition of the time requirements of medical education and personal preference, this program is designed to be flexible and useful to the learner.

Each student is required to participate in enough activities to accrue a total of 4 “H” credits. Students can participate in as many activities as desired, with some choices assigned by lottery.

The ultimate goal of this program is to expose students to the universal language for journeying into the human experience, thus turning pain and suffering into growth-promoting catharsis. As Osler put it, “Grievous damage has been done to medicine in regarding Humanities and Science in any other light than complementary. They are twin berries on one stem.”
College within the College ("CwIC")

The “College within the College” Scholarly Concentrations Program at Sidney Kimmel Medical College provides highly motivated students with academic opportunities beyond the traditional medical curriculum.

Three Program Options

Population Health Track

This track emphasizes principles of public health, global health and community medicine. It is designed for students who wish to expand their focus beyond the individual-level of care to also study factors that impact health on a population-level. An important theme in population health is “the significance” of social determinants of health: environment, literacy, ethnicity, social structure, resource distribution. This track is ideal for those interested in a career in academic medicine and population health, community-based research, addressing health equity and social justice, improving quality and cost of care and engaging with communities locally and globally.

Clinical and Translational Research (CTR) Track

This track will cultivate the next generation of physician scientists and leaders by guiding students to be effective researchers. The program emphasizes independent, hypothesis-driven research in conjunction with an advisor. This relationship is augmented by the assignment of a program mentor and a curriculum of core research topics which is designed to prepare students for postgraduate research activities. This track is ideal for those interested in defining the best patient treatments, drug development, advancing scientific knowledge, a career in academic medicine, and/or clinical research in future practice.

Design Track

This track, introduced in 2014, fosters the creative thinking needed to develop novel and innovative approaches to healthcare delivery, research, and education. Via seminars, workshops and projects, students will learn and apply core concepts of design thinking and methodology to specific design challenges in healthcare. The program is linked to the MEDstudio@JEFF — a unique highly collaborative,
multi-professional home for formal teaching of design thinking and practice open to all Thomas Jefferson University trainees.

CwiC Program Logistics

This 3.5 year co-curriculum places emphasis on longitudinal mentored relationships, group seminars/courses, and scholarly work in all three tracks. Students must be in good academic standing to participate and continue in the program. Selections are made in early February of Year 1. Participants attend didactic sessions, seminars and experiential programs in Years 1 and 2, and complete clinical rotations and electives related to their concentration in Years 3 and 4. In the summer between Year 1 and 2, students will do research in areas related to their program concentration. In addition, each student must produce at least one “scholarly product” before completing the program. Scholarly products may take the form of published papers, conference presentations, curriculum modules, policy analysis, and/or other scholarly work. Students may have the opportunity to publish their work and/or present at regional and/or national conferences.

In addition to the longitudinal mentorship and enhanced curriculum, benefits to students include annotation of the transcript, discussion of participation in students’ Dean’s Letters, and a certificate upon completion of the program.
The Second-Year Core Curriculum

Block I

IDPT. 200  Foundations of Pathology/Pharmacology
(Drs. Beck and Fenderson)

Credits 6.

This module presents fundamental concepts in pathology and pharmacology in preparation for the integration of these disciplines in the Foundations of Clinical Medicine course. The pathology component focuses on mechanisms of disease, including cell injury, inflammation, wound healing, amyloidosis, environmental pathology, neoplasia, developmental/genetic diseases, and hemodynamic disorders. Students learn in lectures, case studies, and interactive discussion/review sessions.

In pharmacology, the concepts of pharmacodynamics, pharmacokinetics, pharmacogenetics, drug metabolism, toxicology, and clinical and translational research are presented. These principles are applied in the autonomic nervous system pharmacology section (lectures and a case-based workshop). Students learn the first of many classes of drugs they will learn throughout the year. Other key topics include use of drugs in special patient populations (neonates, pregnancy and nursing, children, and the elderly), medication adherence, over-the-counter drugs and botanical medicine, clinical and translational research, and federal drug laws applying to prescription medications. The Medical Letter on Drugs and Therapeutics is used to introduce concepts of independent lifelong learning about pharmacology and students take an online quiz about current issues. There is an online exercise using pharmacokinetics software and an in-class prescription-writing workshop. Students learn in lectures, in workshops, and with online exercises.

MICRO. 200  Immunity, Infection and Disease
(Dr. Snyder)

Credits 12.

The objective of this course is to study how the immune system functions, how it contributes to the development of diseases and the relationship between the immune response and infectious diseases. The course provides the background for understanding the composition and mechanisms of the immune response, the diseases associated with the immune response, the biology of organisms which cause the infectious diseases of humans, the interaction between the immune system and infectious diseases and the pharmacology of therapies used to control immunological and infectious diseases. This course is divided into three sections with Section 1 covering Immunology and Virology, Section 2 covering Bacteriology and Section 3 covering Parasitology.
Mycology and Infectious Diseases. The course is comprised of lectures, clinical correlations and laboratory sessions. The goal of the clinical correlations is to present clinical applications of the material covered in the course. Laboratories cover areas, using a case based approach, that are deemed necessary to give a physician insight into obtaining and interpreting laboratory data for proper patient care. Procedures that can be done in a physician’s office or in the emergency setting to help make tentative diagnoses are stressed.

**IDPT. 201 Introduction to Clinical Medicine II**  (Dr. Axelrod)

Credits 6. Year long.

The Introduction to Clinical Medicine II course seeks to help students understand the clinical implications of topics covered in the basic science courses. The course is closely linked to the other second year courses so that issues discussed in ICM II follow the modules of the IID and FCM courses. Much of the course is spent in small group sessions that lend themselves to informal discussion of clinical cases, articles from the medical literature and especially issues of professionalism and ethics. Students also attend Grand Round sessions where senior faculty members interview patients and discuss how the process of medical decision making takes form. During these sessions, students have the opportunity to interact with and ask questions of patients in order to better understand how medical diseases impact on the lives of these patients. Standardized patient interviews are conducted and videotaped with feedback to the students regarding interviewing skills. During ICM II Clinical Skills Sessions, students have the opportunity to examine patients with abnormal physical findings and to learn about the clinical presentations of various disease processes.

**Block II**

**IDPT. 202 Foundations of Clinical Medicine**  
(Drs. Vaid, Strayer, and Beck)

Credits 32.

The objective of this course is to expose the student to fundamentals of clinical medicine, integrating the specialties of medicine with clinical skills, pathology and pharmacology. The course is organized by systems: cardiovascular, endocrinologic, dermatologic, gastrointestinal, hematologic-oncologic, musculoskeletal, neurologic, opthalmologic, pulmonary, renal/urologic, reproductive, and psychiatric. Each section starts with a review of the clinical skills specific to the system, followed by the salient pathology, providing the pathophysiologic basis of the disorders that affect the system. The important associated clinical entities are presented, including the pharmacologic basis of therapeutics for each set of disorders. Teaching methods include lectures, small
group sessions, team based learning exercises and interactive review sessions. This course is tightly integrated with IDPT 204, Clinical Skills and IDPT 201, Introduction to Clinical Medicine II, following the same organ system organization.

The Foundations of Clinical Medicine course is designed to serve as a transition from the fundamental sciences to clinical medicine. Every effort is made to keep the teaching and learning patient-centered, to foster an ethic of self-directed and life-long learning and to provide the student with the background necessary to succeed in the clinical years of their medical education. Resources provided in this course will also serve as useful background review for clinical rotations.

**IDPT. 204 Clinical Skills/Physical Diagnosis** (Dr. Mangione)

Credits 6. This course provided a foundation for physical examination maneuvers and findings. It includes an introductory series of lectures in the followed by system-specific lectures which are integrated into the Foundation of Clinical Medicine course. Didactic sessions include the use of individual wireless stethophones for the teaching of cardiac and pulmonary sounds, and “hands-on” experiences at Thomas Jefferson University’s Rector Clinical Skills Center with standardized patients and simulations. There is also a series of supervised encounters with hospitalized patients at TJUH and our local clinical affiliates. Assessment of students’ knowledge and skills will takes place periodically throughout the course.

**MED. 499 Gateway to Internship** (Dr. Kouvatsos)

Credits 6. Gateway to Internship is a required course during Block 18. The Goal of the course is to provide fourth year medical students with the tools necessary to make the transition from medical school to internship and residency regardless of their future specialty. During this course 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 handoffs 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 course is primarily interactive and will have an Internal Medicine/Family Medicine track (IM, preliminary year interns), a Surgery/EM track (general surgery, surgical subspecialties, EM and obstetrics/gynecology) and a Pediatric track. Grade: Pass/Fail.
There is no official Thanksgiving vacation during clinical rotations. Thanksgiving will be treated as a Sunday. Students are expected to report to their clerkship for this period. (Students will be informed by each department as to their obligations for Thanksgiving Day itself). Students enrolled in clinical courses in the third-year have a seven-day commitment for all weeks in the course except the last week of the course, which ends on Friday.
Clinical Curriculum 2015 - 2017

The academic year for the third- and fourth-year students involved in clinical clerkships at Sidney Kimmel Medical College consists of 100 weeks over the two-year period for a total of 126 credits.

I. Schedule

A. The clinical curriculum starts in July after the United States Medical Licensing Examination Step I and consists of 100 weeks as follows: 84; two weeks of vacation during each December holiday period (total four); two weeks vacation in June; two weeks vacation immediately prior to graduation; eight weeks of vacation to be scheduled to at the needs of the student.

B. The basic unit of the calendar is a six-week block in Year 3 and predominantly four-week blocks in Year 4. A student may take an approved course for:

II. Course Requirements

A. Phase I (Course descriptions start on page 85.)

1. During the first 48 weeks, the sequence of courses may vary, but at the end of the 48 weeks (end of the eighth six-week block of the third year), all students must have completed:
   a. Six weeks of Family Medicine (FAMED. 350)
   b. Twelve weeks of General Surgery, Surgical and Medical selectives (SURG. 350) and IDEPT 352
   c. Twelve weeks of Internal Medicine and Neurology (MED. 350)
   d. Six weeks of Pediatrics (PED. 350)
   e. Six weeks of Psychiatry and Human Behavior (PSYHB. 350)
   f. Six weeks of Obstetrics and Gynecology (OB/GYN. 350)

B. Phase II (Course descriptions start on page 67 and in Department listings starting on page 85.)

2. Prior to graduation, the student will complete the following courses:
   a. Four weeks of Senior Medicine
   b. Gateway to Internship
   c. Four weeks of Emergency Medicine/Advanced Clinical Skills (EMGR. 400)
d. Four weeks of Inpatient Subinternship in either Family Medicine (FAMED. 402), Internal Medicine (MED. 401), General Surgery (SURG. 450) or Pediatrics (PED. 402)

e. Four weeks of an Outpatient Subinternship in either Family Medicine (FAMED. 401 or FAMED. 406), Internal Medicine (MED. 402), Obstetrics/Gynecology (OBGY. 402), Pediatrics (PED. 401), or Psychiatry and Human Behavior (PSYH. 405 or PSYH. 408)

f. Sixteen weeks of electives

The calendars on the preceding pages represent the SKMC’s best judgment and projection of the course of conduct of SKMC during the periods addressed therein. It is subject to change due to forces beyond our control or as deemed necessary in order to fulfill SKMC’s educational objectives.
Clinical Affiliates

Courses in the curriculum are offered on the Thomas Jefferson University campus and at all hospitals affiliated with Sidney Kimmel Medical College. Affiliated hospitals are listed on the following pages. Students are responsible for arranging their own transportation and covering the expenses involved when they are assigned to a course at an affiliated hospital.

Abington Memorial Hospital — This state-of-the-art hospital offers outstanding academic training in a supportive community environment. In addition to strong community outreach and service, Abington has a diverse patient population.

Albert Einstein Medical Center — Based in Philadelphia, this teaching hospital became a Jefferson affiliate in 1998. Clinical instruction is offered in Internal Medicine, Pediatrics, Psychiatry, Surgery, Obstetrics and Gynecology, Orthopaedics, Emergency Medicine, and Neurology/Rehabilitation.

Atlantic Health System — Atlantic Health System, comprised of Morristown Medical Center, Overlook Medical Center, Chilton Medical Center, Newton Medical Center and Goryeb Children’s Hospital, is one of the largest non-profit health care systems in New Jersey.

Bryn Mawr Hospital — This hospital of 283 beds became a major affiliate of Jefferson in 1972. The clinical educational program includes Anesthesiology, Family Medicine, Orthopaedic Surgery, Urology, Surgery and Emergency Medicine.

Bryn Mawr Rehabilitation Hospital — This 118-bed hospital became an affiliate of Sidney Kimmel Medical College in 1982. Clinical instruction in Rehabilitation Medicine is offered.

Crozer-Keystone Health System — Numerous challenging and fully accredited residency programs are offered at one of the leading health care systems in the Delaware Valley. Notably, Crozer-Keystone offers stellar allopathic residencies in Family Practice, Internal Medicine, Obstetrics and Gynecology, Pediatrics and Transitional Year, as well as Osteopathic Internal Medicine, podiatric residency and a variety of osteopathic and allied health training programs.

Christiana Care Health Services — With two locations, one in Newark, Delaware and the other in Wilmington, Delaware, it became affiliated with Jefferson in 1970. It is a 1180 bed complex in northern
Delaware, 27 miles from the Jefferson campus. Clinical instruction is offered in Family Medicine, Medicine, Obstetrics and Gynecology, Psychiatry, Surgery, Anesthesia, Emergency Medicine, Neurology, Radiology, Surgical Subspecialities and Rehabilitative Medicine.

DuPont Hospital for Children — This children's hospital of 150 beds became affiliated with SKMC in 1989 and is now the primary location of Jefferson's Department of Pediatrics. Clinical courses are offered in Pediatrics and Pediatric subspecialties.

Excela Health Latrobe Hospital — Westmoreland County's largest employer, joins together 725 medical professionals in 35 specialties to provide health care to Westmoreland County and parts of Fayette and Indiana counties. With a workforce of 4,500, Excela Health offers traditional inpatient care through hospitals in Greensburg, Jeannette, Latrobe and Mount Pleasant, and outpatient treatment and specialty services to rank as the region's third largest health care network.


Jefferson Hospital for the Neurosciences — JHN is the home of one of the nation's busiest neurosurgery programs. It also houses the Farber Institute for Neurosciences, a neuroscience research institute, the Department of Neurology and the Jefferson Geriatric Psychiatry Program.

Lankenau Hospital — This 351-bed hospital entered into affiliation with Jefferson in 1966. Instruction is offered in the Departments of Anesthesiology, Medicine, Neurology, Obstetrics and Gynecology, Orthopaedic Surgery, Surgery, and Emergency Medicine.

Magee Rehabilitation Hospital — This specialty hospital of 96 beds is devoted to Rehabilitation Medicine. This affiliation was established in 1975.

Methodist Hospital — The Methodist Division of Thomas Jefferson University Hospital since 1996, as a community hospital with 203 beds, is dedicated to excellence in patient care in a neighborhood setting. Methodist Hospital is now the sole provider of acute care services and houses the only Emergency Department in South Philadelphia. Clinical instruction is offered in Internal Medicine, Surgery and Emergency Medicine.
Paoli Hospital — Paoli is recognized regionally and nationally for outstanding medical and surgical services, sophisticated technology and a personalized approach to medical care. The list of innovative programs and services is endless: Wound Center with hyperbaric chambers helping diabetics and others who have hard to heal, severe wounds, the Sleep Center is expanding to meet the increasing needs of our community and the Hattersley Family Centered Maternity Unit where thousands of babies were born at Paoli in our private birthing suites.

Reading Hospital and Medical Center — This 664-bed hospital became affiliated with Sidney Kimmel Medical College in 2000.

Veterans Medical and Regional Office Center — This 100-bed general hospital became affiliated with Sidney Kimmel Medical College in 1979. Instruction is offered in Medicine, Neurology, Surgery and Urology.

Virtua Hospital — This 277-bed hospital became affiliated with Sidney Kimmel Medical College in 1991. Clinical instruction is offered in Obstetrics and Gynecology, and Family Medicine.

Wills Eye Institute — This specialty Institute became affiliated with Jefferson in 1972. Clinical instruction is offered in Ophthalmology and all subspecialties of Ophthalmology. It is located at 9th and Walnut Streets in Philadelphia.

York Hospital — What began in 1880 has become a 558-bed community teaching hospital that employs more than 3,400 people and serves a population of 520,000 in south central Pennsylvania. In addition to being named a top 100 hospital for the sixth time, York Hospital has also been ranked among the top 100 open heart surgery programs and recognized by US News and World Report as one of the country’s top 50 hospitals for orthopedics. There are clerkships in Family Medicine, Internal Medicine, Obstetrics and Gynecology and Surgery at this affiliate.
Required Clinical Curriculum

Phase I

**FAMED. 350  Clinical Clerkship**  
(Dr. Markham)
Credits 7. 1st through 8th Teaching Blocks.
Students 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.

**Location:**

01  Thomas Jefferson University Hospital  
04  Bryn Mawr  
05  Christiana Care Medical Center  
08  Excela Health Latrobe Hospital  
21  Crozer Keystone  
23  Inspira Health Network  
30  Virtua  
39  Reading  
43  York Hospital  
44  Abington  
45  Atlantic Health

**FAMED. 351  Final Written Examination in Family Medicine**  
Credits 2.

**SURG. 350  12-Week Surgery and Surgical/Medical Selective Rotation**  
(Dr. Isenberg)
Credits 14. 12-Week Surgery Rotation

Third Year Surgery Rotation consists of a six-week Clinical Clerkship Rotation and a six-week Surgery Specialty for a total of 12 weeks. Students will spend six weeks on a general surgery, three weeks on one surgery specialty service, and three weeks on a second surgery or medical specialty service at either Thomas Jefferson University Hospital or one of the hospitals affiliated with Sidney Kimmel Medical College. During this teaching block, the student is expected to assimilate the knowledge, skills, and attitudes concerning surgery that are expected of every physician. The students are assigned the responsibility of the preoperative evaluation of surgical patients and their postoperative care and participate in the surgical procedures performed on their assigned patients. Their work is closely supervised and evaluated, and they are encouraged to develop initiative and increasing responsibility. Students participate in patient rounds, conferences, and case presen-
tations. Didactic material is presented by each of the participating hospitals and in a series of seminars at Thomas Jefferson University.

**Required Reading**

Lawrence: *Essentials of General Surgery*, Peter F. Lawrence (5th edition) and *Essentials of Surgical Specialties* (3rd edition). These textbooks are extremely well written with excellent graphics. The books were written expressly for the third-year student.

Mann: *Surgery A Competency-Based Companion with Student Consult Online Access*, Barry Mann, MD.

**Recommended Reading**

Jarrell and Carabasi: *Surgery* (2007 5th edition). This text is probably used by most students. It is extremely comprehensive and written in outline form. It is largely authored by Thomas Jefferson University and affiliate faculty.

Each student is expected to develop a working clinical knowledge of general surgery, and have surgical knowledge common to all specialties. Students are given an End of Clerkship Surgery OSCE (Objected Structured Clinical Evaluation) at the end of the rotation and the results are included in the clinical clerkship grade.

At the conclusion of the 12-week teaching block, the faculty submits a clinical evaluation of each student’s performance during the clerkship. The National Board of Medical Examiners Subject Examination in Surgery is required of all students and is administered at the conclusion of the clerkship. This final examination measures the core knowledge and problem solving abilities gained during the clerkship and is separately recorded in the transcript as Surgery 351.

**Location:**

01 Thomas Jefferson University Hospital  
  Dr. Isenberg  
04 Bryn Mawr  
  Dr. Myrick  
07 Lankenau Hospital  
  Dr. Siripurapu  
10 Methodist Hospital  
  Dr. Palazzo  
15 Christiana Care Health Services  
  Dr. Rubino  
27 DuPont  
  Dr. Katz  
38 Albert Einstein Medical Center  
  Dr. Leung
Each student must select one of the following three-week rotations. Each student may choose to do a second rotation from this list or may instead choose a medical selective (see below).

**ANE ST. 352** (Dr. Rattan)
The clinical curriculum in anesthesiology is directed at teaching the students those 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.

**Location:**
01 Thomas Jefferson University Hospital: maximum 5
03 Bryn Mawr Hospital: maximum 2

**DER M. 352** (Dr. Keller)
The third year selective in dermatology is meant to introduce medical students interested in all fields of medicine this specialty. During this rotation students will be introduced to many aspects of dermatology with a focus on common dermatologic diagnoses and their treatments. Students will be introduced to common dermatologic surgery and diagnostic techniques such as KOH preps, oil preps and tzanck smears.

**Location:**
01 Thomas Jefferson University Hospital: maximum 3
15 Christiana Care Health Services: maximum 1

**FAMED. 352 (Geriatrics)** (Dr. Salzman)
The clinical curriculum for geriatric medicine is directed at teaching students essential principles in caring for older adults that are vital for all practicing physicians in an aging population. Key aspects of geriatrics that are covered in the rotation include: medication management related to the elderly, cognitive and behavioral disorders, falls and gait disorders, atypical presentations of disease in older adults, hazards of hospitalization, understanding self-care capacity, end-of-life care, and advance care planning. Students are exposed to geriatric medicine in a
variety of settings including outpatient-office, inpatient consultations, and long-term care.

**Location:**

01    Thomas Jefferson University Hospital: maximum 1
07    Lankenau Hospital: maximum 1

**MED. 352 (Primary Care)** (Dr. Motz)

The student on this Selective will spend 3 weeks in an integrated faculty/resident general internal medicine practice structured in the Patient-Centered Medical Home model. The student will work one-on-one with a faculty member in the morning and be paired with either faculty or a resident in the afternoon to manage a wide array of acute, chronic and preventive health issues. The student will also learn about systems of care and population health management through electronic medical records and quality improvement processes. Patient mix represents both those with private insurance and on medical assistance. The practice is located on the hospital campus, so that the student will have access to student and resident conferences, the hospital computers and library, as well as free on-campus dormitory style housing, free parking and a daily cafeteria meal allowance.

**Location:**

39    Reading Hospital & Medical Center: 1 student per block, all blocks except 15-01

**NSRG. 352** (Dr. Tjoumakaris)

This course introduces the student to the field of Neurological surgery and the scope of neurological diseases. Specific, emphasis is on cerebrovascular, neuro-oncologic and spinal diseases, and the principles underlying their management. The course will build on the neuroscience curriculum in which students participate at the end of their first year, as well as expand on the concepts derived in the general medicine and surgical core clerkships.

Due to the diversity in the field of neurologic diseases treated at Thomas Jefferson University the students will rotate between Thomas Jefferson University Hospital and Jefferson Hospital for Neuroscience. The curriculum encourages daily clinical exposure involving outpatients, inpatients and operating room experience. Students will also have the opportunity to participate in the Department’s conference and lecture series.

**Location:**

01    Thomas Jefferson University Hospital: maximum 5 students per block
OPTH. 352

(Drs. Markovitz and Uhler)

The Department of Ophthalmology at Wills Eye Hospital participates as a surgical specialty selective. Up to seven students may choose ophthalmology for any three-week period. The rotation begins with an introductory session in which the students will draw a partner’s optic nerve area of the retina. A second introductory session covers the techniques of an ocular examination including familiarity with the slit lamp.

Subsequently, there are eight lectures by faculty that cover various aspects of ophthalmology with emphasis on ocular abnormalities associated with systemic diseases. There are six resident supervised sessions which cover unknown case presentations.

Following the morning didactic session, students are assigned to the general ophthalmology clinic, the emergency room, as well as the subspecialty and OR areas. Students are expected to attend selected resident education conferences, including Chiefs’ Rounds each Friday morning and the Wednesday Noon-time neuro-ophthalmology conference. An open book take-home examination is completed during the course of the elective.

Location:
14 Wills Eye Hospital: maximum 7

ORTHO. 352 (Orthopaedics and Musculoskeletal Disease)

(Dr. Hillibrand)

This course introduces the students to the scope of problems affecting the musculoskeletal system and the principles underlying their management. The students are divided among the University Hospital and its affiliates.

Primary teaching sites include The Bryn Mawr Hospital, Lankenau Hospital, and Albert Einstein Medical Center. At each of these facilities, the students will work under the direction of Orthopaedic surgeons who will guide them through a series of inpatient, operative, and outpatient experiences reflective of the musculoskeletal problems seen and managed by Orthopaedist.

At TJUH, the students will spend three weeks rotating for one week on three of the following services:

1) Total joint reconstruction
2) Spinal surgery
3) Hand / upper extremity surgery
4) Shoulder and elbow surgery
5) Trauma surgery
6) Orthopaedic Oncology
Each of these rotations will consist of spending one-on-one time with residents and attendings in the operating room and in the clinical offices of TJUH and the Rothman Institute.

As an alternative, students may elect to rotate at the A.I. DuPont Institute in Wilmington, DE where they can receive a more intensive focus on Pediatric Orthopaedics (2 weeks) and a third week at Christiana Hospital for an exposure to general orthopaedics.

**Location:**
01 Thomas Jefferson University Hospital: maximum (0 in First and Second Teaching Blocks; 12 (6 per 3 week rotation) in Third through Eighth Teaching Blocks)
02 A.I. DuPont Institute and Christiana Hospital
03 Bryn Mawr Hospital: maximum 3
07 Lankenau Hospital: maximum 1
38 Albert Einstein Medical Center: maximum 3

**OTLO. 352**

Students in groups of seven are assigned to the Otolaryngology service for a total of three weeks. Lectures cover the important aspects of our field relevant to all facets of medicine. In addition, a manual covering core topics of Otolaryngology is distributed to all students at the beginning of the rotation.

Students are expected to work with the residents and attendings on service and should plan to participate in seeing inpatients and rounding in the morning with the residents. Typically, rounds begin between 6:30 and 7:00 a.m.

Clinical experience is provided in the office, hospital and operating room. Students should spend at least one to two days with an attending during their office hours and should otherwise anticipate time spent observing and participating in surgery.

The rotation is graded based on participation of students during their time on service. Giving a presentation in a given topic makes students eligible to receive honors provided they had good performance in their clinical duties. If students are unsure of a topic to present, guidance will gladly be provided.

**Location:**
01 Thomas Jefferson University Hospital: maximum 5
28 duPont Hospital for Children: maximum 2

**RADONC. 352 (Interventional Radiology)**

The selective 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 month, 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 rotation, each student will give a short case presentation on one patient with a disease topic of interest. By the end of the month, students will have a better understanding of both the diagnostic and therapeutic capabilities of the Interventional Radiology division.

**Location:**

01  Thomas Jefferson University Hospital: maximum 2 students per block

**REHAB. 352**

(Dr. Ankam)

The clinical curriculum in rehabilitation medicine is designed to teach students those aspects of the recognition of disability and the care of people with disability that should be understood by all practicing physicians. Disability and health are a continuum, and every person falls along this spectrum. The role of the various levels of rehabilitative care, assistive devices, modalities, adaptive equipment, and therapies are covered. Functional history, neuro-musculoskeletal physical exam, and recognition of the preventable sequelae of common rehabilitation diagnoses (which may include low back pain, stroke, spinal cord injury, traumatic brain injury, spina bifida, cerebral palsy) will be emphasized in both the inpatient and outpatient setting.

**Location:**

01  Thomas Jefferson University Hospital: maximum 1
28  A.I. duPont Hospital for Children: maximum 1
03  Bryn Mawr Rehabilitation Hospital: maximum 1
44  Moss Rehabilitation Hospital: maximum 1
45  Magee Rehabilitation Hospital: maximum 2
39  Reading Health Rehabilitation Hospital: maximum 1

**UROL. 352**

(Drs. Lallas and Frank)

This basic course introduces the student to the diagnosis and treatment of urologic disease. Responsibilities include: inpatient and outpatient evaluation, conferences, and operating room participation. The University and affiliated hospitals present a well-rounded curriculum, and opportunity for Grand Round presentations, and comprehensive lecture
series that provide an excellent introductory exposure to modern urology. The main textbook references for the rotation are Smith and Tanagho’s *General Urology* and Campbell-Walsh *Urology* (most recent editions). Students are asked to present a five-minute talk at the end of the rotation on a topic of their choice.

**Location:**
01 Thomas Jefferson University Hospital: maximum 6 per three weeks with the exception of Blocks 1 and 2, July through September when there is a maximum of 2 due to the space needed for the 401 students.
03 Bryn Mawr Hospital
15 Christiana Care Medical Center
22 Department of Veterans Affairs Medical Center, Wilmington

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**SURG. 351** Final Written Examination in Surgery
Credits 2.

**MED. 350** Internal Medicine Clerkship (Dr. Mingioni)
Credits 14. 10th through 21st teaching blocks.

The Internal Medicine clerkship is the core experience for acquisition of the knowledge, skills, attitudes and behaviors required to care for the adult patients in the hospital environment. This is an eight week experience, where student spends four weeks at the Thomas Jefferson University Hospital, and four weeks at one of our academic affiliates (Methodist, Lankenau, Einstein, VA, Reading, York, or Atlantic Health). The purpose of the clerkship is to provide students with clinical and didactic experiences which will enable them to diagnose and manage patients with the disease processes commonly seen in general internal medicine. The role of the student is to evaluate and follow patients assigned by the supervising resident or attending physician, to function as a team member, and to seek information and develop in-depth knowledge of the pathophysiology of the clinical disorders seen, and to attend and participate in the formal educational programs provided at each institution. Students are evaluated by their housestaff and attending faculty at the end of the rotation, and are required to obtain mid-term feedback from them during their rotation so that they can work on their clinical skills throughout their clinical time in internal medicine.

**Location:**
01 Thomas Jefferson University Hospital
07 Lankenau Hospital
10 Methodist Hospital
15 Christiana Care Health Services
22 Department of Veterans Affairs Medical Center
38 Albert Einstein Medical Center
Pediatricians care for patients during the first two decades of life with a strong focus on disease prevention, anticipatory guidance and wellness; however, pediatrics also encompasses all the standard sub-specialty areas (e.g., cardiology, endocrinology, etc.) and several specialties that are unique to pediatrics (e.g., neonatology). Students spend six weeks on the core pediatric rotation where they learn and practice how to approach patients of different ages and are exposed to common clinical problems. Experiences in the inpatient, outpatient and newborn nursery ensure that every student sees a balanced patient mix. Students learn from a core “clinical case based” curriculum and enhance their interviewing, physical exam and technical skills at a clinical skills day, through structured direct observation and videotaping of patient interviews.

Students are expected to see patients on their own under the close supervision of an attending and/or senior resident and are actively involved in all aspects of patient care.

Location:
01 Thomas Jefferson University Hospital
   Dr. LoSasso
03 Bryn Mawr
   Dr. Caruso
15 Christiana Health Care Services
   Dr. Soykan
28 The duPont Hospital for Children
   Dr. Consolini
38 Albert Einstein Medical Center
   Dr. Schindler
39 Reading Hospital and Medical Center
   Dr. Wang

PED. 351 Final Written Examination in Pediatrics (NBME Subject Examination)
Credits 2.

PSYHB. 350 Psychiatry Clerkship (Drs. Cohen, Best, and SKMC Affiliate Faculty)
Credits 7. 1st through 8th teaching blocks.
This core clinical experience prepares all physicians to recognize and plan treatment for the most prevalent psychiatric disorders. Students also learn techniques for managing their reactions to disturbing patient symptoms and behavior. In this clerkship students gain experience developing therapeutic relationships with patients and establishing treatment boundaries. Third-year students have the opportunity to evaluate and follow the progress of patients with a variety of psychiatric disorders. Students evaluate and follow patients under faculty supervision, observing and participating in all treatment, rehabilitative, and preventive programs within the clinical setting. The six-week clerkship is divided into two three-week clinical placements to provide breadth of exposure to patients, disorders, clinical teams and treatments. Core clinical skills sessions and didactic seminars are scheduled for a half-day per week and attended by all students. Students learn to differentiate common mental-life problems that present to the general physician and can be treated in that setting from severe disorders that require specialized evaluation and management. Over the course of the clerkship student training and evaluation focus on increasing competence in the following aspects of clinical psychiatry: 1. Developing appropriate treatment relationships with patients; 2. Working effectively with a clinical team; 3. Demonstrating responsibility and accountability in patient care; 4. Growth in reasoning skills required in comprehensive case formulation; 5. Application of the general psychiatric knowledge base; and, 6. Mastery of clinical skills, especially ability to obtain a psychiatric history and conduct a comprehensive mental status examination. 6. Competence in treatment planning, including integration of psychiatric medications, behavioral and supportive psychotherapies, and practical problem-solving to improve patient quality of life.

Location:

01  Thomas Jefferson University Hospital
    Dr. Cohen and Jefferson Faculty
03  Bryn Mawr Hospital
    Dr. Walzer and Affiliate Faculty
15  Christiana Care Health System
    Dr. Marcus and Affiliate Faculty
38  Albert Einstein Medical Center – Main campus
    Drs. Best, Ryan and Affiliate Faculty
41  Belmont Behavioral Health Network of AEMC
    Drs. Best, Ryan and Affiliate Faculty

PSYHB. 351  Final Written Examination in Psychiatry (NBME Subject Examination)
Credits 2. 1st through 8th Teaching Blocks
The aim of this clerkship is for students to learn basic skills, attitudes and knowledge essential for the care of women. The program in each location is designed to provide a parallel experience involving conferences, outpatient and inpatient activities.

On obstetrics, the student is assigned in rotation to the office, to the delivery room, or to patients with complications who have been admitted to the hospital for evaluation and management. In the office, the student is exposed to the fundamentals of prenatal care for normal and complicated pregnancies. The delivery room experience affords the opportunity to observe and follow patients during labor and the postpartum period and to assist in their delivery. Selected patients with pregnancy complications admitted to the hospital are assigned to the student for evaluation. The student participates in their management under supervision of the resident staff and the faculty.

On gynecology, the student is assigned in rotation to the office and to patients with a gynecologic disorder who have been admitted to the hospital. The student is responsible for the history and physical examination and is required to outline a course of management for each assigned patient. The student follows the course of the patient in the hospital with the resident staff under supervision by the faculty. Assignment to the operating room affords the opportunity to assist on surgical procedures performed on assigned patients. Correlation of surgical findings with the microscopic pathology is an integral part of the experience.

There may be opportunities to experience time with a sub-specialist like a Maternal –Fetal Medicine service, a Gynecologic Oncology service or a Reproductive Endocrinology and Infertility service. These options may be inpatient or outpatient.

At the completion of the course, the student should (1) have developed knowledge, attitudes and skills relevant to the care of the normal adolescent, reproductive and aging female specifically competently performing relevant history and genitourinary exam; (2) be able to identify patients requiring specialized obstetric and gynecologic consultation; and (3) have expanded knowledge in the social problems of the patient and of society.

**Location:**

01  Thomas Jefferson University Hospital  
    Dr. Lackritz

03  Bryn Mawr  
    Dr. Bernardini
OB/GYN. 351 Final Written Examination in Obstetrics and Gynecology (NBME Subject Examination) Credits 2.

Phase II

IDPT. 425 Advanced Basic Science Independent Study Credits 9. All Teaching Blocks

Application materials and full instructions are available in the Office of the Registrar. Students must submit the request with a brief proposal that meets criteria described in the application. The independent study project can be developed in any of the sciences included in the first two years of the medical school curriculum. A specific faculty member must be identified who will supervise the independent study program. The goals of the independent study program must be described along with the scope of the student’s involvement. Plans for a formal summary of the project at completion (such as an abstract, presentation, summary report) must be described. The program of study must be completed within a specific four-week block. Faculty contacts for the ABS Independent Study are:

Anatomy – Dr. Schmidt
Biochemistry and Cell Biology – Dr. Ronner
Computer Sciences – Dr. Frisby
Epidemiology – Dr. Rattner
Health Policy – Dr. Nash
Histology (Microscopic Anatomy) – Dr. Grunwald
Microbiology and Immunology – Dr. Abraham
Neurosciences – Dr. Brainard
Pathology – Dr. McCue
Physiology – Dr. Siegman
Pharmacology – Dr. Beck
EMGR. 400  Emergency Medicine/Advanced Clinical Skills  
(Dr. Papanagnou)  
Credits 6. 10th through 20th Teaching Blocks

The Emergency Medicine / Advanced Clinical Skills (EM/ACS) Clerkship is a mandatory rotation for all fourth-year medical students. Students will work closely with Emergency Medicine (EM) attendings and residents in the diagnosis and management of patients who present to the Emergency Department (ED). Students will work between 24 and 32 hours per week in the Emergency Department.

Students will attend didactic lectures, clinical skill laboratories, and patient simulations during the clerkship. Students will use the Patient Encounter Log System (PELS) during the clerkship. In addition, students will have the opportunity to take the Advanced Cardiac Life Support (ACLS) Course and or the Pediatric Advanced Life Support (PALS) course during the clerkship. At the end of the clerkship, all students will take a mandatory multiple-choice examination.

The curriculum for the first Monday of the clerkship and every Friday during the clerkship will be held on campus at Jefferson. All students will attend the first Monday orientation day at Jefferson and all Friday teaching/testing days at Jefferson. During the other days, students will work in the Emergency Department at either Thomas Jefferson or one of the affiliates. Students will rotate through only one Emergency Department.

Location:
01  Thomas Jefferson University Hospital  
    Maximum 7 & 2 visiting students allowed per block
02  A.I. Dupont Medical Center  
    Maximum 3
03  Albert Einstein Medical Center  
    Maximum 4
04  Bryn Mawr Hospital  
    Maximum 1
05  Christiana Care Medical Center  
    Maximum 4
06  Lankenau Hospital  
    Maximum 1
07  Methodist Hospital  
    Maximum 4
**NEUR. 401  Neurology**  
(Dr. Kremens)  
Credits 6. 10th through 22st Teaching Blocks

A clinical clerkship on the wards at Thomas Jefferson University Hospital or affiliated hospitals is offered for each four-week block. During this period, the student acts as extern under the supervision of resident house officers and attending neurologists. Students must have completed IDPT400 Neurology/Rehab course before being allowed to take this elective. Department approval is also required.

**Location:**  
01 Thomas Jefferson University Hospital

**Senior Medicine**  
(Dr. Wong)

The Senior Medicine Clerkship is a required rotation for all fourth year students. The goal of this clerkship is to revisit clinical internal medicine as a fourth year, after the completion of the required third year clerkships. Themes found in internal medicine, but generalizable to other specialties will be explored in the context of the more mature understanding of a fourth year student. This clerkship is intended to reinforce critical internal medicine knowledge and skills prior to graduating, and to expose students to professionalism, systems-based practice and practice-based learning/performance improvement concepts at an level appropriate for a fourth year student. Students choose an elective from the approved list of internal medicine electives. In addition to fulfilling the clinical requirements of their chosen electives, students attend one half-day didactic session per week for a total of four sessions. These sessions are case-based and highly interactive. During each session, core internal medicine topics are used to illustrate advanced diagnostic and management principles, challenge students to engage in critical thinking, and help them learn to function within the health care system in a way that will promote their patients' health. Grading will be based on clinical evaluations, participation in/preparation for the academic half day, and the completion of any assigned projects.

**Approved Rotations**

Med 411 Nutrition (Jefferson)  
Med 431 Hematology (Jefferson)  
Med 433 Hematology/Oncology (Methodist/Einstein/Christiana/Lankenau/Wilm VA)  
Med 434 Hematologic Malig/Bone Marrow Trans. (Jefferson)  
Med 441 Nephrology/Hyper. (Jefferson/Lankenau/Methodist/Einstein/Christiana/Wilm VA)  
Med 457 Clinical Cardiology (Jefferson/Lankenau/Methodist/Einstein/Christiana/Wilm VA)
Med 467 Pulmonary (Jefferson/Lankenau/Methodist/Einstein/Christiana/Wilm VA)
Med 473 Infectious Disease (Jefferson/Lankenau/Einstein/Christiana/Methodist)
Med 478 Hepatology (Jefferson/Einstein)
Med 479 Gastro/Hepatol (Jefferson/Lankenau/Methodist/Einstein/Wilm VA)
Med 481 Geriatric Medicine (Einstein)
Med 489 Rheumatology (Jefferson/Einstein/Methodist/Christiana/Wilm VA)
Med 490 Women's Health (Jefferson)
Med 491 Endocrinology (Jefferson/Lankenau/Methodist/Einstein/Christiana)
Med 495 Clinical Oncology (Jefferson/Christiana)

*No Exceptions
Max per block for lectures is 40 students.

Other Course Descriptions

For descriptions of the other required Advanced Basic Science options, inpatient subinternships (Internal Medicine, Pediatrics and General Surgery), and outpatient subinternships (Family Medicine, Internal Medicine, Pediatrics, Obstetrics/Gynecology and Psychiatry & Human Behavior), as well as electives, please check the Departmental listings, starting on page 85.
Student Evaluation

Sidney Kimmel Medical College recognizes that it has obligations not only to its students, but also to the faculty of the institution, to the medical profession, and most important, to society. The function of the Committee on Student Promotion is to help ensure that each graduate of Sidney Kimmel Medical College meets essential requirements of medical knowledge, skills, and attitudes. The Committee on Student Promotion must also ensure that each student demonstrates the appropriate professional behavior, ethical conduct and personal attributes that are crucial to the practice of medicine. As students progress through the College, the Committee on Student Promotion must ensure that students meet those overall requirements to move from one level of instruction to the next. Through the Committee on Student Promotion, Thomas Jefferson University seeks to ensure that each student fulfills all requirements for every course included within their program of medical education, as well as all non-cognitive requisites for pursuing a medical career. The purview of the Committee on Student Promotion extends to all aspects of the student’s ability to perform as a physician inclusive of professional behavior. It is also recognized that through its faculty and through the Committee on Student Promotion, Thomas Jefferson University has an obligation to help each student to recognize and, where possible, to correct any identified deficiencies. When this cannot be reasonably accomplished, the institution, through the Committee on Student Promotion, has the further obligation to withhold a medical degree.

A candidate for the Doctor of Medicine degree must demonstrate abilities and skills in a number of areas including: observational, communicative, motor, conceptual, integrative and quantitative, and behavioral and social. Candidates for the degree of Doctor of Medicine must be certified by the faculty to exhibit the requisite knowledge, skills and attitudes to complete the prescribed course of study. Students must also possess personal qualifications and attributes deemed necessary to perform the duties of the medical profession. All candidates must be free of any judgment-impairing condition, attitude, habit or addiction. The Board of Trustees reserves the right to withhold the degree from any candidate who has not been certified for graduation by the Committee on Student Promotion.

The Committee on Student Promotion of the Sidney Kimmel Medical College faculty is vested with the responsibility of evaluating the academic performance, the professional and ethical conduct, and the personal attributes of all students and rendering decisions
regarding promotion, dismissal, leaves of absence, or any other appropriate actions. The following guidelines highlight specific policies and procedures of the Committee on Student Promotion with respect to promotion of qualified and competent students. These guidelines are implemented at the sole discretion of the Committee on Student Promotion. In such situations, the Committee will carefully examine all relevant facts and assess any extenuating circumstances.

Core Curriculum

Students are evaluated by an appropriate departmental or interdepartmental faculty. Criteria for evaluation are established using general guidelines formulated and approved by the Committee on Student Promotion. These guidelines reflect and recognize differences in methods of evaluation unique to each course. Specific course requirements, such as format, date and logistics of examinations, requirements for satisfactory course completion, textbook suggestions, etc. are made available during the first week of each course. It is the student’s responsibility to become familiar with all course requirements.

1. Grading System

a. Courses in years one and two

Courses will be evaluated on an Honors, Pass, Fail basis. Honors will be given for final averages of 90% or greater. A grade of Fail will be given for final averages below 70%. For first-year courses, a score of 70% or above must be earned in all components of each course to earn a grade of Pass. In order for students to be able to track their own progress throughout the course, students will receive numerical scores for their performance on interim evaluations.

b. Courses in years three and four

All Phase I and Phase II courses and electives will be recorded in the student’s academic record with the following grades: High Honors: 5, Excellent: 4, Good: 3, Marginal Competence: 2, Incomplete: I, Failure: 1. For Phase I and II courses with a final written examination, the minimum passing grade is 70. Students are reminded that all courses must be passed for promotion or graduation.

For a more complete explanation of all grading, evaluation and promotion policies, please refer to the Sidney Kimmel Medical College Student Handbook.
Reasonable Accommodations for SKMC Students

Thomas Jefferson University will make reasonable accommodations which do not impose an undue hardship on SKMC on behalf of qualified individuals with disabilities or handicaps of which Thomas Jefferson University is aware. Thomas Jefferson University also will make reasonable accommodations which do not impose an undue hardship on Thomas Jefferson University with regard to a student’s religious observances, practices and beliefs of which Thomas Jefferson University is aware. Students are required to fulfill the technical standards of SKMC, with or without accommodation. Request(s) for accommodation(s) for medical or religious reasons, should be made through the Associate Dean for Academic Affairs/UME.

Qualifications for License in the Commonwealth of Pennsylvania

The Commonwealth enacted a new Medical Practices Act in 1985 (Act 112 of 1985) that specifies the qualifications for obtaining a license to practice medicine from the Pennsylvania Board of Medical Education and Licensure.

The Board shall not issue a license or certificate to an applicant unless the applicant establishes with evidence, verified by an affidavit or affirmation of the applicant, that the applicant is of legal age, is of good moral character, and is not addicted to the intemperate use of alcohol or the habitual use of narcotics or other habit-forming drugs and that the applicant has completed the educational requirements prescribed by the Board and otherwise satisfies the qualifications for the license or certificate contained in or authorized by this act. The Board shall not issue a license or certificate to an applicant who has been convicted of a felony under the act of April 14, 1972 (P.L.233, No. 64), known as The Controlled Substance, Drug, Device and Cosmetic Act, or of an offense under the laws of another jurisdiction which, if committed in this Commonwealth, would be a felony under The Controlled Substance, Drug, Device and Cosmetic Act, unless:

1) at least ten years have elapsed from the date of conviction;

2) the applicant satisfactorily demonstrates to the Board that he has made significant progress in personal rehabilitation since the conviction such that licensure of the applicant should not be expected to create a substantial risk of harm to the health and safety of his
patients or the public or a substantial risk of further criminal violations; and

3) the applicant otherwise satisfies the qualifications contained in or authorized by this act.

As used in this section the term 'convicted' shall include a judgment, an admission of guilt or a plea of "nolo contendere."

The Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to the Senior Associate University Registrar written requests that identify the record(s) they wish to inspect. The University Office of the Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write to the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.
One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

The University, at its discretion, may provide directory information in accordance with the provisions of the Act to include: the student’s name, address, telephone listing, date and place of birth, major field of study, academic schedule, participation in officially recognized activities, dates of attendance, degrees and awards received, photo, university electronic mail address, campus key and the most recent previous educational agency or institution attended by the student. Students wanting directory information withheld should notify the Registrar in writing within 10 calendar days after the first scheduled day of class of the academic year of such election.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Thomas Jefferson University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC, 20202-4605

Revisions and clarifications will be published as experience with the law and University policy warrant.
Facilities for Instruction

Sidney Kimmel Medical College is situated on an urban campus in Center City Philadelphia. Located in the adjoining College and Curtis Buildings are the College’s administrative offices, as well as laboratories and the administrative offices of many of the academic departments. These two buildings also contain significant educational facilities: numerous small group classrooms a 275-seat high-tech auditorium in McClellan Hall. The Herbut and DePalma Auditoriums are also housed in the College Building. Additional academic and administration departments, laboratories, and the Solis-Cohen and Brent Auditoriums are located in Jefferson Alumni Hall. It also provides formal and informal small group study space, the University’s recreational facilities and two student lounges.

The Bluemle Life Sciences Building, opened in 1991, doubling the space available for research. Although it is primarily a research facility, including the Kimmel Cancer Center, it also houses flexible meeting space for testing, seminars and symposia.

The Center for Teaching and Learning serves as a central location for faculty, staff, and students to access teaching and learning services at Thomas Jefferson University. The Scott Memorial Library (SML) is the largest component of the CTL and a campus hub for access to print and non-print resources, study space, and learning technologies.
All floors of the Scott Memorial Library are open to the Thomas Jefferson University community 24 hours a day, seven days a week. The Service Desk on the second floor is staffed 100 hours per week. The Library’s collection reflects the University’s focus on health care, health care education, health research, and the history of the health sciences. It includes approximately 80,000 books and bound print journals; over 5,000 electronic journal subscriptions; 1,000 plus e-books; the University Archives; and significant holdings of rare books dating to the 15th century.

A large collection of study resources—such as skeletons, bone boxes, videos, and other course materials—is available from the second floor Service Desk. The library also manages the computer classrooms (M13 and 311 JAH and 306/307 Scott), a video editing suite that includes Articulate Storyline, Camtasia, and Captivate software, 10 small-group collaboration suites, six private study rooms, and the computers available throughout the library.

The Center for Teaching and Learning offers additional student services to help you excel:

**Manuscript & Poster Presentation:** Writing Center staff are available to help you prepare papers for journal publication or posters for presentations at meetings and conferences.

**Public Speaking:** CTL staff provide one-on-one coaching and professional speaking support. You can also record practice presentations for self-evaluation and refinement.

Opened in 2007, the Dorrance H. Hamilton Building is one of the nation’s first centers for interdisciplinary health instruction and the first medical school facility in Philadelphia to offer interdisciplinary learning and an integrated curriculum to medical, nursing, physical and occupational therapy students.

The six-story, state-of-the-art academic building houses a technologically-advanced auditorium, small and large group classrooms and a two-floor clinical skills center featuring virtual diagnostic and surgical suites. It is located on Locust Street between South 10th and 11th streets.

**Ground Floor**
300 seat technologically advanced auditorium Designed for large group lectures

**Second Floor**
19 classrooms
Dr. Robert and Dorothy Rector Clinical Skills Center (3rd and 4th floors)
The Clinical Skills Center was renamed for Dr. Robert and Dorothy Rector in 2004.

Third Floor
- Obstetrics simulation lab
- Home of “Noelle,” simulated Ob/Gyn patient for training students to assess obstetric events and complicated births
- Acute Care simulation lab
- Home of “Sim Man,” simulated patient for training students to manage and treat life-threatening emergencies
- 14 exam rooms, library

Fourth Floor
- Operating Room simulation lab
- Surgical procedures
- Pre/Op-Post/Op simulation lab
- Preparation and follow-up care after surgery
- 14 exam rooms

Fifth Floor
- Intensive Care Unit simulation lab
- Critical care
- Trauma simulation lab
- Acute, time-sensitive care
- Anesthesia simulation lab
- Intubation, difficult airways, ventilation
- Occupational Therapy simulation lab including mock apartment: A simulated bathroom, bedroom and kitchen used to train students how to help patients navigate their living space

Continuing Medical Education

The Office of Continuing Medical Education (CME) assists the faculty of the Sidney Kimmel Medical College at Thomas Jefferson University in the development and implementation of educational activities to maintain and increase physician knowledge and skills, and to improve the quality of patient care. Activities are offered in response to practice needs and interests of faculty and alumni of Sidney Kimmel Medical College and local, regional, and national physician groups.

Seminars and symposia dealing with broad issues and concerns are offered both regionally and nationally, and faculty for these programs are drawn from the faculty of SKMC as well as from other institutions. Activities for independent study (CD-ROM, Internet-
based, monographs) are also developed through the Office of CME. The Office also supports certification of many grand rounds series on campus. A Visiting Professor Series, presented at affiliated and community hospitals by SKMC faculty, addresses specific topics using lecture, case discussion and/or teaching round formats. Communications are facilitated through the CME Web site: jeffline.jefferson.edu/jeffcme/.

The Sidney Kimmel Medical College at Thomas Jefferson University is accredited by the Accreditation Council for Continuing Medical Education. As an accredited sponsor of CME, SKMC may designate credit for programs that meet the requirements of the Physicians Recognition Award of the American Medical Association.

Students collaborate and learn together.
Student Services, Activities and Facilities

Student Support Services

Office of Student Affairs and Career Counseling

The goal of the Office of Student Affairs and Career Counseling (OSACC) is to be available for academic and personal advising, to advocate for student needs, to foster career counseling, and to improve student access to SKMC. The office is located in Jeff Alumni Hall at College Building, Suite 116 and is open from 8:00 a.m. to 5:00 p.m. The number for the OSACC is (215) 503-6988 during business hours. For emergencies after business hours, please page the on-call Dean for Student Affairs at 877-656-4437. Information can be found on the Student Affairs and Career Counseling site jefferson.edu/university/SKMC/student_affairs.html.

Academic Advising

The OSACC maintains a proactive stance regarding student academic performance. Drs. DeSimone, Rosenthal, Pohl, and Trayes along with course directors and the deans for Undergraduate Medical Education are available for students with academic concerns or difficulty.

Clinical Mentor Program

The Clinical Mentor Program is designed to provide students with ongoing contact with a clinical mentor starting in the first year. Clinical mentors are assigned to incoming students to provide not only clinical exposure, but also guidance and direction throughout the medical school career.

Personal Counseling

The Student Personal Counseling Center offers confidential and accessible contact with a mental health professional to discuss personal and academic concerns. The psychiatrists and therapists of the Counseling Center are available to discuss all types of issues including, but not exclusive to, stress management, problems with personal or family relationships, feelings of depression or anxiety, and issues involving eating disorders or substance abuse.
The Director of the Student Personal Counseling Center, Deanna Nobleza, MD of the Department of Psychiatry, may be reached directly and confidentially at 215-503-2817 to set up an appointment either with her or another therapist or psychiatrist, on or off the Thomas Jefferson University Campus. If there is an after-hours emergency, students should go to the Thomas Jefferson University Hospital Emergency Room (located in the Main Hospital Building at 10th and Sansom Streets, 215-955-6840) and ask to speak to the psychiatrist on call.

**Career Planning**

There are a number of resources available to students as they seek counseling for career choices, suggestions for residency training, and clarification in the application process. The Office of Student Affairs and Career Counseling (OSACC) is available to provide guidance and advice to each student regarding his or her career selection. The annual meeting with your assigned dean of Student Affairs is an excellent opportunity to discuss the career selection process. The Career Planning Workshops, also offered through the OSACC several times throughout the third year, are interactive workshops designed to help students make better-informed career choices. Students are also encouraged to identify specialty-specific advisors, as well as continue to meet with their clinical mentor, assigned in the first year, for additional guidance in the career planning process.

There is a density of essential information on the Student Affairs and Career Counseling Blackboard site which provides links to choosing a specialty, instructions on residency planning, timelines for third- and fourth-year students, contact information for Thomas Jefferson University residency directors, as well as specific information regarding the Electronic Residency Application Service (ERAS) and the National Residency Matching Program (NRMP). Please use this site and the OSACC as valuable resources available to you for your career planning.

**Office of Diversity and Minority Affairs**

In pursuit of its mission, the Sidney Kimmel Medical College recognizes that a diverse and inclusive community is imperative in achieving excellence in patient care, education, and research. SKMC is committed to diversity, inclusion and health equity in the broadest terms as defined by the Association of American Medical Colleges*. Given its location in metropolitan Philadelphia and in the commonwealth of Pennsylvania, SKMC gives special emphasis to
the recruitment of students from racial and ethnic groups that are underrepresented in medicine (URM), students that identify as lesbian, gay, bisexual, transgender, and those questioning their sexual identity (LGBTQ), first-generation college, and those from disadvantaged socioeconomic status.

*The AAMC definitions for Diversity, Inclusion and Health Equity (aamc.org/members/gdi)

**Diversity** — Diversity as a core value embodies inclusiveness, mutual respect, and multiple perspectives and serves as a catalyst for change resulting in health equity. In this context, we are mindful of all aspects of human differences such as socioeconomic status, race, ethnicity, language, nationality, sex, gender identity, sexual orientation, religion, geography, disability and age.

**Inclusion** — Inclusion is a core element for successfully achieving diversity. Inclusion is achieved by nurturing the climate and culture of the institution through professional development, education, policy and practice. The objective is creating a climate that fosters belonging, respect, and value for all and encourages engagement and connection throughout the institution and community.

**Health Equity** — Health Equity is when everyone has the opportunity to attain their full health potential and no one is disadvantaged from achieving this potential because of their social position or other socially determined circumstance.

In furtherance of its commitment to diversity and inclusion, SKMC sponsors the Office of Diversity and Inclusion Initiatives whose mission is to support, promote and integrate diversity and inclusion into the fabric of SKMC. The Associate Dean for Diversity and Community Engagement along with the Assistant Dean for Diversity and Student Diversity Programs provide focused guidance and direction for SKMC. Key areas of ongoing focus include the reduction of health disparities, the recruitment and retention of students and faculty, the curriculum, and student programs and activities. The office is intimately involved with the development of policies and programs to assure an optimal focus on diversity and inclusion. The office also interacts with the community at-large in the development of student pipeline programs, which support greater diversity of those entering the health professions, particularly the field of medicine.

The Office of Diversity and Inclusion Initiatives, together with the Office of Student Affairs and Career Counseling and the Office
of Student Life and Engagement, supports student groups and activities which enhance multicultural awareness and competencies and promote diversity within the community. Examples of activities have included Black Heritage Month, LGBTQ Month, Latin Heritage Month, and Diversity Week. Cultural immersion opportunities through the Global Health initiative and courses in medical Spanish have also been offered.

**Student Activities**

**Student Council**

The Student Council is comprised of elected and appointed student representatives from each class at Sidney Kimmel Medical College of Thomas Jefferson University. Responsibilities of the Council include supervision of student organizations, disbursement of university funds, and the dissemination of information on issues pertinent to student life at SKMC. Furthermore, the Council acts as the liaison between the students, faculty and administration. Council representatives serve with faculty on standing committees in the areas of Admissions, Affiliations, Alumni, Curriculum, Research, Student Affairs, and Technology. As the collective voice of the student body, the Council works continuously with faculty and administration to recommend and implement changes that will positively affect students at SKMC and within the University community.

**Orientation**

Orientations are mandatory and are held for each of the classes at the beginning of the new academic year. Third and fourth year student orientations are held early in July, focusing on the clinical rotations and the residency application process. Orientation for the second-year class, held later in the summer and, provides an overview of the second year curriculum. First year students have a week-long orientation that includes programs to acquaint the new students with the curriculum, services, organizations, and activities.

**Yearbook**

*The Clinic* is SKMC's annual student yearbook. It serves the dual purpose of honoring the graduating class and chronicling the events of the academic year. *The Clinic* pursues an independent editorial policy, and staff participation is open to all students. Editorial and photographic contributions are welcomed. The yearbook is published under the auspices and overall review of the Student Council of SKMC,
which approves selection of both the editor and business manager of the publication.

**Societies and Organizations**

Students have many opportunities to participate in different medical societies and service organizations such as Alpha Omega Alpha, Asian Pacific Medical Student Association, Dermatology Society, Emergency Medicine Society, Family Medicine Society, Gibbon Surgical Society, American Medical Association (AMA), American Medical Student Association (AMSA), American Medical Women’s Association (AMWA), and Jeff HOPE, just to name a few. The Office for Student Affairs and Career Counseling, the SKMC student council, and the University Office of Student Life and Engagement have information regarding these activities. Members of societies must contact the society’s faculty advisor prior to planning events.

**JeffHope**

From the first to the fourth year, students are invited to participate in Jeff HOPE (Health Opportunities for Prevention and Education), a student-initiated program that provides medical care and patient advocacy to Philadelphia’s homeless, under supervision of the Departments of Medicine and Family and Community Medicine. The year-round program includes a seminar series, as well as on-site, interdisciplinary clinical experience for students in all four years of medical school.

**Learning Societies**

Learning societies have been created and students are assigned to one of these societies upon matriculation. The mission of the societies is to promote communities of students and faculty that are committed to the core values of Sidney Kimmel Medical College and to nurture professional and personal development. The goals are to: 1) enhance a sense of community within Thomas Jefferson University; 2) promote the exchange of ideas, companionship, and mentorship; 3) highlight the importance of community service; 4) develop skills in leadership, communication, doctoring, and professionalism; and 5) create an opportunity for longitudinal education.

The societies have been named after esteemed Thomas Jefferson University graduates: Dr. John Biddle Society; the Jacob DaCosta Society, the Dr. Robley Dunglison Society, the Juan Carlos Finlay Society, the Carla Goepp Society, the Samuel Gross Society, the Algernon Jackson Society, and the William Keen Society.
Courses of Instruction

The course descriptions below are based upon reasonable projections of faculty and faculty availability and appropriate curriculum considerations. The matters described are subject to change based upon changes in circumstances upon which these projections were based and as deemed necessary by the College to fulfill its role and mission.

Anesthesiology

Chairman
Zvi Grunwald, MD, Professor of Anesthesiology, Chairman of the Department

Vice Chairman
David P. Maguire, MD, Associate Professor of Anesthesiology, Vice Chairman of the Department

Coordinators
Neeru Rattan, MD, Assistant Professor of Anesthesiology and Medical Student Coordinator for Third-Year Medical Students
Rehana A. Jan, MD, Associate Professor of Anesthesiology and Medical Student Coordinator for Anesthesia Electives

Education Coordinator
Mary Long

Clinical Curriculum

ANEST. 402 Subinternship (Dr. Jan and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: minimum 1, maximum 5
Enrollment: By arrangement

This comprehensive elective 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 are taught under close staff supervision. The operating room teaching is supplemented by twice weekly lectures. During their rotation, students do not have any overnight call obligations.

The last week of the rotation can be spent in the subspecialty of the student’s choice; i.e., cardiac, neurosurgery, obstetrics anesthesia or acute pain management.

**ANEST. 403 Pain Management** (Dr. Wang and Staff)
- Credits 6. 10th through 21st Teaching Blocks.
- Enrollment: minimum 1, maximum 1.
- Enrollment: By arrangement

The student is a member of the pain management team and applies the principles of evaluation of patients with acute and chronic pain syndromes. Time will be spent in the postoperative acute pain service and in the chronic pain clinic. Teaching stresses the need for a complex, multidisciplinary approach to pain problems. 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.

**ANEST. 425 Research**
- Credits 6. All Teaching Blocks.
- Enrollment: by arrangement.
Biochemistry and Molecular Biology

Chairman
Jeffrey Benovic, PhD, Professor of Biochemistry and Molecular Biology and Chairman of the Department
Ya-Ming Hou, PhD, Professor of Biochemistry and Molecular Biology
James Keen, PhD, Professor of Biochemistry and Molecular Biology
Diane Merry, PhD, Associate Professor of Biochemistry and Molecular Biology
Michael Root, PhD, Associate Professor of Biochemistry and Molecular Biology
Peter Ronner, PhD, Professor of Biochemistry and Molecular Biology
Edward Winter, PhD, Professor of Biochemistry and Molecular Biology

Course Director
Peter Ronner, PhD, Professor of Biochemistry and Molecular Biology, Vice-Chair for Education, Biochemistry and Molecular Biology

Clinical Curriculum

BIOC. 105 Molecular and Cellular Basis of Disease
(Drs. Ronner, Fortini, Hoek, Menko, and Faculty)
Credits 16. Second Teaching Block. First year.

For a full description, please see the Curriculum section of this catalog.

BIOC. 405 Research Elective in Molecular Biology, Cell Biology, Genetics, or Metabolism (Dr. Ronner and Staff)
Credits 6. Enrollment minimum: 1

In consultation with a preceptor, students carry out individual short-term projects. The course can be taken as an elective or for advanced basic science credit in the fourth year. Timely approval from the course director and the Subcommittee of the Committee on Curriculum (for advanced basic science credit) is required.
Dermatology and Cutaneous Biology

Chairman
Jouni Uitto, MD, PhD, Professor of Dermatology and Cutaneous Biology and Chairman of the Department

Vice Chairs
Young C. Kauh, MD, Professor of Dermatology and Cutaneous Biology and Senior Vice Chair for Departmental Development

Jason B. Lee, MD, Professor of Dermatology and Cutaneous Biology, Clinical Vice Chair of the Department of Dermatology and Cutaneous Biology, Director, Departmental Residency Training Program

Faculty
Matthew Keller, MD, Associate Professor of Dermatology and Cutaneous Biology, Clerkship Director and Clinical Preceptor for medical students

Patrice Hyde, MD, Clinical Associate Professor of Dermatology and Cutaneous Biology, Chief, Pediatric Dermatology

Joya Sahu, MD, Assistant Professor of Dermatology and Cutaneous Biology, Assistant Professor of Pathology, Anatomy, and Cell Biology, Assistant Professor of Medical Oncology, Associate Director of Jefferson Dermatopathology Center

Saedi, Nazanin, MD, Assistant Professor of Dermatology and Cutaneous Biology, Director of Laser Surgery and Cosmetic Dermatology

Clinical Curriculum

DERM. 401 Senior Clerkship in Dermatology (Staff)
Credits 6. 10th through 14th and 16th through 21st Teaching Blocks.
Enrollment: Scheduled with registrar.

This clerkship 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 clerkship will be required.
DERM. 402  Basic Dermatopathology
Credits 6. 10th through 15th Teaching Blocks.
Enrollment: By arrangement.

The rotation 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 work with pathology and dermatology residents, fellows, and faculty members. Oral presentation at the end of the rotation is a requirement.

(Approved Advanced Basic Science Rotation)
Emergency Medicine

Chairman
Theodore A. Christopher, MD, FACEP, Professor of Emergency Medicine and Chairman of the Department

Vice Chairs
Roger A. Band, MD, Associate Professor of Emergency Medicine; Vice Chair for Strategic Out-of-Hospital Initiatives, and Director of Dignitary Medicine

Brendan G. Carr, MD, MA, MS, Associate Professor of Emergency Medicine; Vice Chair for Healthcare Policy and Delivery, and Associate Dean, Healthcare Delivery Innovation, Sidney Kimmel Medical College at Thomas Jefferson University

David F. Gaieski, MD, Associate Professor of Emergency Medicine; Vice Chair for Resuscitation Services, and Director of Emergency Critical Care

Judd E. Hollander, MD, Professor of Emergency Medicine; Vice Chair for Finance and Healthcare Enterprises, and Associate Dean, Strategic Health Initiatives, Sidney Kimmel Medical College at Thomas Jefferson University

Bernard L. Lopez, MD, MS, FACEP, FAAEM, Professor of Emergency Medicine; Vice Chair of the Department, and Associate Dean, Diversity and Community Engagement, Sidney Kimmel Medical College at Thomas Jefferson University

Paris B. Lovett, MD, MBA, Associate Professor of Emergency Medicine; Vice Chair of Information Technology, and Medical Director, Patient Flow Management Center

Dimitrios Papanagnostou, MD, MPH, EdD Candidate, Assistant Professor of Emergency Medicine; Vice Chair of Education; Director of the Emergency Medicine 4th Year SKMC Medical Student Clerkship, and Assistant Dean, Faculty Development, Sidney Kimmel Medical College at Thomas Jefferson University

Frederick T. Randolph, MD, MBA, Clinical Assistant Professor of Emergency Medicine and Vice Chair of Emergency Medicine, Methodist Hospital Division

Olan A. Soremekun, MD, MBA, Associate Professor of Emergency Medicine and Vice Chair of Clinical Operations and New Business Opportunities
Directors
Maria Aini, MD, Assistant Professor of Emergency Medicine; Associate Medical Director of Clinical Operations, and Director of the Jefferson Clinical Decision Unit

Arthur Au, MD, Assistant Professor of Emergency Medicine and Director of the Emergency Department Ultrasound Training Program

J. Matt Fields, MD, Associate Professor of Emergency Medicine and Director of the Emergency Department Ultrasound Program

Alan T. Forstater, MD, FACEP, Assistant Professor of Emergency Medicine; Clinical Director of Professionalism, and Assistant Director of the Emergency Medicine 4th Year SKMC Medical Student Clerkship

Ronald V. Hall, MD, Assistant Professor of Emergency Medicine and Emergency Medicine Residency Director

Edward H. Jasper, MD, Assistant Professor of Emergency Medicine and Director of the Center for Bioterrorism and Disaster Preparedness

Peter L. Jones, PhD, Professor of Emergency Medicine; Director, MEDstudio@JEFF, and Associate Dean of Emergent Design and Creative Technologies, Sidney Kimmel Medical College at Thomas Jefferson University

Paul F. Kolecki, MD, FACEP, Associate Professor of Emergency Medicine and Director of Emergency Medicine Toxicology

Bon S. Ku, MD, MPP, Associate Professor of Emergency Medicine and Director of the College within a College (CwIC) Design Track Program

Wayne Bond Lau, MD, FACEP, Associate Professor of Emergency Medicine; Co-Director, College within a College, Clinical Translational Research Division, and Assistant Director, Jefferson Japan Center

Xinliang Ma, MD, PhD, Professor of Emergency Medicine and Director of Cardiovascular Injury Research (Basic Science)

Priya Mammen, MD, MPH, Clinical Assistant Professor of Emergency Medicine and Director of Emergency Medicine Public Health

Richard J. Massone, MD, Assistant Professor of Emergency Medicine and Assistant Emergency Medicine Residency Director
Clinical Curriculum

EMRG. 400 Emergency Medicine/Advanced Clinical Skills
(Drs. Papanagnou & Forstater)

Credits 6. 10th through 20th Teaching Blocks.

The Emergency Medicine/Advanced Clinical Skills (EM/ACS) Clerkship is a mandatory rotation for all fourth-year Sidney Kimmel Medical Students. Students will work closely with Emergency Medicine (EM) attendings and residents in the diagnosis and management of patients who present to the Emergency Department (ED). Students will work between 24 and 32 hours per week in the Emergency Department.

Students will attend didactic lectures, clinical skill laboratories, and patient simulations during the clerkship. Students will use the Patient Encounter Log System (PELS) during the clerkship. In addition,
students will have the opportunity to take the Advanced Cardiac Life Support (ACLS) Course and or the Pediatric Advanced Life Support (PALS) course during the clerkship. At the end of the clerkship, all students will take a mandatory multiple-choice examination.

The curriculum for the first Monday of the clerkship and every Friday during the clerkship will be held on campus at Thomas Jefferson University. All students will attend the first Monday orientation day at Thomas Jefferson University and all Friday teaching/testing days at Thomas Jefferson University. During the other days, students will work in the Emergency Department at either Thomas Jefferson or one of the affiliates. Students will rotate through only one Emergency Department.

**Location:**

01 Thomas Jefferson University Hospital & Methodist Combined Rotation
   12 & 2 visiting students allowed per block
02 A.I. DuPont Medical Center
   3 students allowed per block
03 Albert Einstein Medical Center
   4 students allowed per block
04 Bryn Mawr Hospital
   1 student allowed per block
05 Christiana Care Medical Center
   4 students allowed per block
06 Lankenau Hospital
   1 student allowed per block
07 Paoli Hospital
   2 students allowed per block
08 Morristown Medical Center Atlantic Health System
   4 students allowed per block

**EMRG. 403** Emergency Medicine Elective
   (Drs. Papanagnou & Forstater)
   Credits 6. 10th through 21st Teaching Blocks.

Students who desire to participate in an Emergency Medicine Elective need to arrange this rotation with that particular department. All questions should be directed to that Emergency Department. Elective Request must be approved by Course Coordinator. Contact Steven Bulizzi.

**EMRG. 404** Toxicology Elective
   (Drs. Papanagnou & Forstater)
   Credits 6. Offered in certain blocks only. Contact JoAnn Corbi at (215) 456-3834 or corbij@einstein.edu
General Goals
To become competent in the evaluation, diagnosis and management of patients with toxic exposures who present to the Emergency Department (PC, MK, SBP). To understand basic pharmacodynamics of toxic ingestions and drug interactions (PC, MK)

Specific Goals
The resident will master the skills needed to properly evaluate the overdosed patient including the prompt recognition of various toxicodromes (PC, MK, SBP)

Location:
03 Albert Einstein Medical Center

EMRG. 405 Point of Care Ultrasound
(Course Director: Arthur Au, MD; Co-directors: J. Matthew Fields, MD; Bon Ku, MD, MPP)
Credits 6. 10th through 20th Teaching Blocks.

Through this elective in Emergency Point-of-care (POC) ultrasound, the rotating medical student should gain an understanding of the appropriate indications for 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.

This four-week elective will consist of 4 scanning shifts per week that will take place in the Emergency Departments at Thomas Jefferson University and Methodist Hospitals. Students will also attend weekly ultrasound didactic/review sessions once a week. In addition to these scheduled activities, students will be responsible for giving journal article presentations and completing assigned reading and web-based didactic lectures. Selected readings will come from “Manual of Emergency and Critical Care Ultrasound” (Noble and Nelson).

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.

Location:
01 Thomas Jefferson University Hospital & Methodist Combined Rotation

EMGR. 425 Research Elective (Nicole Renzi)

This elective rotation 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 re-
search mentor, and approved by the course director listed above. For
this approval, the student must submit in writing to the course director
a description of the proposed project, a list of goals for the month, and
the name of the faculty mentor prior to scheduling this elective.

EMGR. 495  Integrative Medicine  (Dr. Monti)
Credits 6. All Teaching Blocks Except Block 11.

Integrative medicine guided by the scientific principles and practices
of conventional Western medicine, combined with evidence-based life-
style interventions and complementary therapies. A primary goal is to
address the whole person – body, mind, and spirit – health and well
being. Learning goals for this course are: (1) Master core concepts and
principles of integrative medicine; (2) Gain familiarity; the practice of
integrative medicine, including: patient assessment and treatment plan-
ing; (3) Explore specific complementary therapies that can be part of
an overall integrative medicine treatment plan, such as stress reduction
techniques, nutritional strategies, and acupuncture; of integrative medi-
cine; (4) Reinforce a personal commitment to personal and professional
wellness.

Students will accompany integrative medicine physicians and comple-
mentary therapy providers during patient care. Because of the nature
of this practice, students will generally not perform independent, com-
plete evaluations of patients.

The clinical practice of the Jefferson-Myrna Brind Center of Integrative
Medicine is located at 925 Chestnut Street, Suite 120.

Course requirements include: clinical observation; shadowing for at
least one full week each of at least two of the Center’s onsite Integra-
tive Medicine physicians and one complementary therapy practitioner;
completion of a three hour Web-based nutrition module; development
and completion of a personal wellness goal for the month; completion
of directed readings. A small presentation (to be arranged with course
director) is necessary for a grade of honors.
Family and Community Medicine

Interim Chair
Christine Arenson, MD, Alumni Professor and Interim Chair, Department of Family and Community Medicine, Co-Director, Jefferson InterProfessional Education Center, TJU

Vice Chairs
Christine M. Jerpbak, MD, Associate Professor & Vice Chair of Education, Director of Medical Student Education, Course Director, Introduction to Clinical Medicine 1
George Valko, MD, Gustave and Valla Amsterdam Professor & Vice-Chair for Clinical Programs and Quality
James Plumb, MD, MPH, Professor & Vice Chair of Community Medicine, DFCM, Director, Center for Urban Health, Course Director, Community Medicine

Course Directors
Christine M. Jerpbak, MD, Associate Professor & Vice Chair of Education, Course Director, Introduction to Clinical Medicine 1
Fred W. Markham, Jr., MD, Professor of Family and Community Medicine, DFCM, Director, Clinical Clerkship and Sub-Internships
James Plumb, MD, MPH, Professor, DFCM, Director, Center for Urban Health, Course Director, Community Medicine
Christine Hsieh, MD, Assistant Professor, DFCM, Associate Director of the Eastern Pennsylvania and Delaware Geriatric Education Center (EPaD GEC), Course Director, Geriatric Sub-Internship
Lara Weinstein, MD, Assistant Professor, DFCM, Course Director, Homeless Care Continuum
Joshua Barash, MD, Instructor, DFCM, Course Director, Obstetrics in Family Medicine
Randa Sifri, MD, Associate Professor, DFCM, Director, Research Development, Course Director, Family Medicine Research
Susan Parks, MD, Associate Professor, DFCM, Director, Division of Geriatric Medicine and Palliative Care Director, Eastern Pennsylvania - Delaware Geriatric Education Center

Education Programs Administrator
Katherine Paul, MPH

Program Coordinator
Natalie Nederostek
Clinical Curriculum

FAMED. 350  Clinical Clerkship (Dr. Markham)
Credits 7. 1st through 8th Teaching Blocks.

Students 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.

Location:
01 Thomas Jefferson University Hospital
04 Bryn Mawr
05 Christiana Care Health System
08 Excela Health Latrobe Hospital
21 Crozer Keystone
23 Inspira Health Network
30 Virtua
39 Reading
43 York
44 Abington
45 Atlantic Health

FAMED. 351  Written Examination
Credits 2.

FAMED. 352  Geriatrics (Dr. Salzman)
Credits 6. 10th through 21st Teaching Blocks.

The clinical curriculum for geriatric medicine is directed at teaching students essential principles in caring for older adults that are vital for all practicing physicians in an aging population. Key aspects of geriatrics that are covered in the rotation include: medication management related to the elderly, cognitive and behavioral disorders, falls and gait disorders, atypical presentations of disease in older adults, hazards of hospitalization, understanding self-care capacity, end-of-life care, and advance care planning. Students are exposed to geriatric medicine in a variety of settings including outpatient-office, inpatient consultations, and long-term care.

Location:
01 Thomas Jefferson University Hospital—maximum 1
07 Lankenau Hospital—maximum 1

FAMED. 401  Outpatient Subinternship (Dr. Markham)
Credits 6. 10th through 21st Teaching Blocks.

Students are given progressive responsibility, with supervision, for outpatient care. For the senior taking the preceptorship early in the
academic year, emphasis is on developing skill 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 of 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 rotation. Examples include honing physical exam skills, improving interview skills, improving time management skills, learning about practice planning and financial management.

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**IDPT. 401 Interdepartmental Outpatient Sub-Internship in Musculoskeletal Medicine** (Dr. Ankam)

Fourth-year students. Must have transportation.
5 days per week for 4 weeks.
Credits 6. All teaching blocks except 18 and 21.
Enrollment: Maximum 5 per teaching block.

**FAMED. 402 Inpatient Subintership** (Dr. Markham)

Credits 6. 10th through 21st Teaching Blocks.

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 his or her patients in the morning, checks labs, and writes orders. The student presents succinctly to the faculty preceptor 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.
Location:
01 Thomas Jefferson University Hospital
Other Affiliates By Arrangement
05 Christiana Care Health System

FAMED. 403 **Indian Health Service**  (Dr. Markham)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

Students may go to any of the Indian Health Service sites (a division of the US Department of Health and Human Services). IHS sites provide care exclusively for native Americans. At IHS sites students take on considerable responsibility for patient care, and challenge themselves both medically and personally.

FAMED. 404 **General Elective in Family Medicine away/abroad** (Dr. Markham)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

Students may choose to take a four-week elective at another residency program, or go abroad. Students are expected to generate their own educational goals and objectives in advance.

FAMED. 405 **Palliative Care**  (Dr. Worster)
Credits 6. 10th through 21st Teaching Blocks.

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 also:
1. have the opportunity to spend time at an inpatient hospice.
2. participate in weekly palliative care conferences.
3. receive small group interactive discussions on Palliative Care topics twice a week.
4. be expected to present a case report during the Palliative Care conference at the end of the rotation.
5. have an opportunity to participate in ongoing research projects or start their own research project.

Location:
01 Thomas Jefferson University Hospital
**FAMED. 406  Geriatric Subinternship** (fulfills the outpatient subinternship requirement) (Dr. Hsieh)  
Credits 6. Teaching Blocks 10 through 21  

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 rotation such as balancing priorities for patients with multiple chronic conditions, and providing patient- and family-centered care for older adults.  

**Location:**  
01  Thomas Jefferson University Hospital  

**FAMED. 407  Community Medicine** (Dr. Plumb)  
Credits 6. Teaching Blocks 10 through 21  

Students spend each day with Office to Advance Population Health staff. Responsibilities include attending and participating in community-based health education programs (including Diabetes Self Management, Weight Management, Asthma, Nutrition and Breast Health), screenings (including stroke, diabetes, blood pressure and cholesterol) and staff meetings. The student functions as a full member of the Office Staff. Students also:  
1. Participate in weekly clinic and health education sessions at St. Elizabeth’s Primary Care Center at 23rd and Berks.  
2. Attend community and coalition meetings.  
3. Learn to access and utilize health data sets through computer based instruction.  
4. Analyze a community health problem using a planning model.  
5. Assist in grant writing.  
6. Assist in identifying funding opportunities.  
7. Participate in on-going research projects.  
8. Attend weekly educational sessions on principles and practice of community medicine.  

**Location:**  
01  Thomas Jefferson University Hospital
FAMED. 409  Homeless Care Continuum  (Dr. Weinstein)
Credits 6.  10th through 21st Teaching Blocks.

Students spend time each week with the Project HOME Outreach Team; participate in weekly clinic and health education sessions at St. Elizabeth’s Primary Care Center at 23rd and Berks which serves formerly homeless men, women and children; attend community and coalition meetings related to homeless care, prevention and public policy; and aid homeless patients in transitions from TJUH ED and hospital-based care to community settings in an effort to break the cycle of homelessness.

Students also:
1. Participate in weekly Jeff HOPE clinics.
2. Assist in identifying funding opportunities.
3. Participate in on-going research projects.
4. Attend weekly educational sessions on principles and practice of community medicine.

Location:
01 Thomas Jefferson University Hospital

FAMED. 410  Approaches to Obesity Prevention and Control  (Dr. Plumb)
Credits 6.  10th through 21st Teaching Blocks.

Students spend each day with Office to Advance Population Health staff involved in the Clinic Community Intervention Program (CCIP), as part of Jefferson’s Center for Excellence in Obesity Research. Responsibilities include attending and participating in Lifestyle Counseling efforts and community-based health education programs and staff meeting, functioning as a full-member of the CCIP Staff.

Students also:
1. Participate in the implementation of the We-Can program in local churches.
2. Participate in weekly clinic and health education sessions at St. Elizabeth’s Primary Care Center at 23rd and Berks.
3. Attend CODA (Childhood Origins of Diseases of Adults) meeting(s).
4. Attend community and coalition meetings, including the Action Teams of the Philadelphia Urban Food and Fitness Alliance (PUFFA) related to Food Systems/Local Access, Nutrition, and the Built Environment.
5. Learn to access and utilize health data sets through computer based instruction.
6. Participate in the implementation of a Built Environment plan in a Philadelphia neighborhood.
7. Assist in grant writing.
8. Assist in identifying funding opportunities.
9. Participate in on-going research projects.
10. Attend weekly educational sessions on principles and practice of community medicine.

**Location:**
01 Thomas Jefferson University Hospital

**FAMED. 413 Family Practice Obstetrics** (Dr. Barash)
Credits 6. 12th through 21st Teaching Blocks.

Students see pre-natal and post-partum patients with the supervision of designated Family Medicine Obstetrics faculty using the standard precepting model, take call, assist and observe in gynecology surgeries, assist and observe colposcopies, assist and observe in deliveries, and attend morning report, grand rounds, and resident conferences as they occur (when not on call or participating in deliveries).

**Location:**
01 Thomas Jefferson University Hospital

**FAMED. 416 Global Health at Home** (Dr. Plumb)
Credits 6. 17th and 19th Teaching Blocks.

Students will spend at least three half-days per week working in a refugee health clinic as a full member of the office staff and work with two different selected social service agencies or programs at least three half-days per week. Students will participate in other educational activities, including community-based refugee health events and a seminar series on refugee health. In consultation with faculty facilitator, develop a presentation focusing on one clinically relevant topic within refugee health. Focus areas include:

a. Population centered presentation (i.e. pertinent history/ background of immigrants or refugee populations)

b. Disease based (i.e. pertinent epidemiology concerns for a given populations- arsenic poisoning in Bangladesh)

c. Areas of advocacy: unaccompanied minors, immigration reform, torture prevention, LGBTQ

**Location:**
01 Thomas Jefferson University Hospital
FAMED. 425  Research in Family Medicine  
(Dr. Sifri)

Credits 6.  10th through 21st Teaching Blocks.

This elective rotation 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 listed above. For this approval, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective.

Specific learning objectives for this rotation include the demonstration of:

1. A commitment to professionalism, specifically demonstrated by honesty and integrity in this scientific pursuit.
2. An understanding of the need to engage in lifelong learning.
3. An understanding of the power of the scientific method in establishing the causes of disease, the power of diagnostic testing and the efficacies of traditional and non-traditional treatments.
4. Knowledge of the process and value of research in the basic and clinical sciences.
5. The ability to critically evaluate the medical literature and to seek opportunities to expand understanding and appreciation of scientific discoveries and their applications.
6. The ability to document research findings using appropriate scientific conventions.
Medicine

Chairman
Gregory C. Kane, MD, Interim Chairman, Vice Chairman for Education, Professor of Medicine

Vice Chairmen
Howard H. Weitz, MD, Division Director, Cardiology, Professor of Medicine, Senior Vice Chairman for Academic Affairs

Program Director, Internal Medicine Residency
Gretchen Diemer, MD

Course Directors
Nina Mingioni, MD, Clerkship Director
Emily Stewart, MD, Sub-Internship and Gateway to Internship Director
Lim Wong, MD, Director, Fourth Year Medicine
Dale Berg, MD, Course Director, Advanced Physical Diagnosis
Joseph Majdan, MD, Director, Clinical Skills Elective, Professional Development, Rector Clinical Skill Center
Albert Lee, MD, Course Director, Outpatient Sub-Internships
Linda Gallagher, RD, MA, Course Director, Clinical Nutrition
Douglas Drelich MD, Course Director, Hematology
Joanne Filicko, MD, Course Director Hematologic Malignancies/Bone Marrow Transplant & Medical Oncology
Rakesh Gulati, MD, Course Director, Nephrology and Hypertension
David Wiener, MD, Course Director, Cardiology Heart Station, Cardiology Acute Care, Clinical Cardiology
Matthew DeCaro, MD, Course Director, Coronary Care Unit
Urvashi Vaid, MD, Course Director, Pulmonary Medicine & Critical Care Medicine
Salvatore Mangione, MD, Course Director Physical Diagnosis
Joseph DeSimone, MD, Course Director, Infectious Diseases
Jonathan Fenkel, MD, Course Director, Hepatology
Clinical Curriculum

MED. 350 Clinical Clerkships and Outpatient Clinics (Dr. Mingioni)
Credits 14. 10th through 21st Teaching Blocks.

For a full description, please see the Educational Program section of this catalog.

MED. 401 Inpatient Subinternship (Dr. Stewart and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

The Internal Medicine Senior Inpatient Subinternship is the advanced experience for the acquisition of knowledge, skills, attitudes and behaviors necessary to care for adult patients in the hospital environment. These attributes, gained over the four weeks of this rotation, are important aspects of the skills of physicians in all disciplines of medicine. Clinical students serve as subinterns and, as such, have responsibilities
for patient evaluation and management. They participate in night and weekend duties but have regular college vacations and holidays.

The approach to the diagnosis and treatment of assigned patients is determined and outlined by the subinterns, and the plan is implemented after discussion with and approval by supervising physicians. The problem-oriented approach to patient illness is emphasized and the various problems defined by the student are reviewed, analyzed, and discussed in depth. Problems may be social and economical as well as biological. The pertinence of the current medical literature is emphasized, and its use is encouraged as a source for continuing self-education for improved patient care.

**Location:**

01 Thomas Jefferson University Hospital  
Maximum 12

07 Lankenau Hospital  
Maximum 7

10 Methodist Hospital  
Maximum 2

15 Christiana Care Health Services-Christiana Hospital  
Maximum 2

22 Wilmington V.A. Medical Center  
Maximum 3

38 Albert Einstein Medical Center  
Maximum 3

39 Reading Hospital & Medical Center  
Maximum 1

43 York Hospital  
Maximum 1

**MED. 402 Outpatient Subinternship** (Dr. Lee and Faculty)

Credits 6. 10th through 21st Teaching Blocks.

Clinical 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 setting. MED. 402 is scheduled by arrangement only. There are approximately nine physician offices available (at Thomas Jefferson University Hospital and affiliates) providing 21 spots per block. The following group is most frequently requested:

Jefferson Internal Medicine Associates (JIMA): The goal of this outpatient subinternship is to expose fourth-year medical students to the
principles of outpatient medicine in the Division of Internal Medicine’s ambulatory care practice. Students will be assigned to a division member and participate in office hours both morning and afternoon in the 833 chestnut Street. A syllabus and didactic lectures will be provided.

**Location:**
01 Thomas Jefferson University Hospital and Affiliates

**MED. 411 Clinical Nutrition** (L. Gallagher, RD, MA)
Credits 6. 13th, 14th, 17th and 20th Teaching Blocks.

This elective provides the student with a variety of experiences focusing on the medical nutrition management of patients in the hospital and outpatient settings. The student will learn techniques to assess nutritional needs, calculate nutritional requirements, and write nutritional prescriptions, including for those patients receiving tube feedings and/or total parenteral nutrition. In addition, the student will perform initial assessments and follow patients, participate in nutrition counseling sessions with patients, attend rounds and related conferences.

**Location:**
01 Thomas Jefferson University Hospital
Linda Gallagher, RD, MA—by arrangement

**MED. 421 General Ambulatory Medicine**
Same as MED. 402, but offered as a four week elective.

**Location:**
Nonaffiliate only: By arrangement.

**MED. 426 Research** (Dr. Chan and Faculty)
Credits 6. All Teaching Blocks.
Enrollment: By arrangement.

**MED. 431 Hematology** (Dr. Bray)
Credits 6. 10th through 21st Teaching Blocks.

In this externship, students work closely with the attending hematologist, fellows, and residents in the diagnosis and management of patients with hematologic diseases. 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.

**Location:**
01 Thomas Jefferson University Hospital
Maximum 2
MED. 433  **Hematology/Oncology**  (Dr. Filicko and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

07  Lankenau Hospital
    Maximum 1
10  Methodist Hospital
    Maximum 1
15  Christiana Care
    Maximum 1
22  Wilmington V. A. Medical Center
    Maximum 1
38  Albert Einstein Medical Center
    Maximum 2
43  York Hospital
    Maximum 1

MED. 434  **Hematologic Malignancies/Bone Marrow Transplant**  (Dr. Filicko and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

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. The students will spend 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 third or fourth year, there is an option to spend all four 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.

**Location:**

01  Thomas Jefferson University Hospital
    Maximum 1
MED. 441  **Nephrology and Hypertension**  
(Dr. Gulati)  
Credits 6. 10th through 21st Teaching Blocks.

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

**Location:**
- 01 Thomas Jefferson University Hospital  
  Maximum 4
- 07 Lankenau Hospital  
  Maximum 1
- 10 Methodist Hospital  
  Maximum 2
- 15 Christiana Care Health Services-Christiana Hospital  
  Maximum 1
- 22 Wilmington V. A. Medical Center  
  Maximum 1
- 38 Albert Einstein Medical Center  
  Maximum 1
- 43 York Hospital  
  Maximum 1

MED. 451  **Cardiology—Heart Station**  
(Dr. Wiener and Faculty)  
Credits 6. 10th through 21st Teaching Blocks.

During this elective, students have the opportunity to learn how to interpret electrocardiograms under direct supervision of Dr. Chung, assisted by a cardiology fellow assigned to the heart station. Thus, the students will be expected not only to learn ECG interpretation, but also to understand the electrophysiologic mechanisms of various electrocardiographic abnormalities in conjunction with clinical correlations. The in-depth study of the electrocardiographic analysis with clinical applications will expose students to common cardiology problems. Students are expected to attend daily conferences within the division.

**Location:**
Nonaffiliate only

MED. 455  **Cardiology—Acute Care CCU/ICCU**  
(Dr. Wiener)  
Credits 6. 10th through 21st Teaching Blocks.

The medical student is assigned to these units and makes daily rounds with the house staff and the attending cardiologist for any given month. The student is exposed to the basics of arrhythmia monitoring, ar-
rhythmia therapy, and hemodynamic monitoring, and will attend all invasive procedures on patients when these are performed in the CCU catheterization laboratory. The student is not expected to work up or directly manage these patients, but is present during the initial workup by the assigned intern and participates daily in the management conferences of the division.

**Location:**
Nonaffiliate only

**MED. 457 Clinical Cardiology** (Dr. Wiener)
Credits 6. 10th through 21st Teaching Blocks.

This elective 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 with the cardiac fellow assigned to this service and with Dr. Wiener, and present new work-ups 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 be assigned, as well, to the patients of other members of the division, depending upon the case load and whether medical house officers also are electing this rotation. In any event, the same type of bedside, individual teaching will be adhered to.

**Location:**
01 Thomas Jefferson University Hospital
  Maximum 2
07 Lankenau Hospital
  Maximum 1
10 Methodist Hospital
  Maximum 1
15 Christiana Care Health Services-Christiana Hospital
  Maximum 1
22 Wilmington V. A. Medical Center
  Maximum 1
38 Albert Einstein Medical Center
  Maximum 1
39 Reading Hospital
  Maximum 1
43 York Hospital
  Maximum 1
**MED. 458  Coronary Care Unit**  (Dr. DeCaro)
Credits 6. 10th through 21st Teaching Blocks.

This course is an experience in diagnosis and management of patients with acute cardiac events. Students are exposed to patients, ECG, echocardiography, cardiac catheterization, invasive monitoring, and rounds with resident team and teaching attendings.

Students work up four or five patients each week in CCU and follow up, including admitting history and physical examination; order (with appropriate countersignature); and with supervision, perform selected procedures.

Students are provided the opportunity to learn to recognize and manage acute cardiac problems from presentation to discharge.

**Location:**
01 Thomas Jefferson University Hospital
   Maximum 1-except block 15
38 Albert Einstein
   Maximum 1

**MED. 467  Pulmonary**  (Dr. Vaid and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

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

**Location:**
01 Thomas Jefferson University Hospital
   Maximum 2
07 Lankenau Hospital
   Maximum 1
10 Methodist Hospital
   Maximum 1
15 Christiana Care Health Services-Christiana Hospital
   Maximum 1
22 Wilmington V. A. Medical Center
   Maximum 1
38 Albert Einstein Medical Center
   Maximum 1
43 York Hospital
   Maximum 1
MED. 469  Critical Care Medicine  (Dr. Vaid and Faculty)
Credits 6.  10th through 21st Teaching Blocks.

This externship emphasizes the care of patients with respiratory failure and its complications. Included are daily rounds with radiology review and discussion of equipment, multidiscipline approach to acute care, and special problems of patient multisystem failure.

Location:
01  Thomas Jefferson University Hospital
   Maximum 1
07  Lankenau Hospital
   Maximum 1
10  Methodist Hospital
   Maximum 1
15  Christiana Care Health Services-Christiana Hospital
   Maximum 1
38  Albert Einstein Medical Center
   Maximum 2

MED. 473  Infectious Diseases  (Dr. DeSimone and Faculty)
Credits 6.  10th through 21st Teaching Blocks.

This elective is designed to provide the student with experience in the consultative practice of Infectious Diseases. This includes the diagnosis and management of a variety of clinical problems, correlation with the medical literature, appropriate use and interpretation of microbiologic and other diagnostic studies, and antibiotic prescribing. Daily rounds with the Infectious Diseases fellow and attending consist of presentation and discussion of new cases, follow-up of service patients, and bedside teaching. The student is expected to attend weekly conferences within the division. In addition, students are provided with special teaching sessions conducted by fellows and attendings in which core material in Infectious Diseases is reviewed.

Location:
01  Thomas Jefferson University Hospital
   Maximum 2
07  Lankenau Hospital
   Maximum 1
15  Christiana Care Health Services-Christiana Hospital
   Maximum 1
38  Albert Einstein Medical Center
   Maximum 1
39  Reading Hospital
   Maximum 1
**MED. 474  Advanced Physical Diagnosis**  (Dr. Berg)
Credits 6. 12th, 15th, and 17th Teaching Blocks Only.

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 month-long course which consists of a set of sessions designed to teach the basic and advanced techniques, outcomes and interpretation used in physical examination. Topics include: HEENT, musculoskeletal, eye, skin, abdomen, cardiovascular, pulmonary, male and female genitourinary and neurological examinations will be covered in depth. 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.

**Location:**
01 Thomas Jefferson University Hospital
Maximum 25

**MED. 475  Clinical Skills Elective**  (Dr. Majdan)
Credits 6. Block 13 only
By arrangement only

**Location:**
01 Thomas Jefferson University Hospital

**MED. 478  Hepatology**  (Dr. Fenkel)
Credits 6. 10th through 21st Teaching Blocks.

Students are involved in the care of patients with a wide variety of liver disorders including viral hepatitis, alcoholic liver disease, cholestatic liver diseases and metabolic liver diseases. By participating in daily hospital rounds on the busy hepatology service, students will be exposed to the diagnosis and management of chronic liver disease and liver transplantation. Students will also attend out patient clinics and conferences dealing with transplantation evaluation and listing, immunosuppression, interpretation of liver biopsies and management of non-transplantation aspects of hepatology.

**Location:**
01 Thomas Jefferson University Hospital
Maximum 2
38 Albert Einstein Medical Center
Maximum 1
MED. 479  Gastroenterology and Hepatology  (Dr. Coben)
Credits 6. 10th through 21st Teaching Blocks.

This externship 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.

Location:
01 Thomas Jefferson University Hospital
   Maximum 3
07 Lankenau Hospital
   Maximum 1
10 Methodist Hospital
   Maximum 2
22 Wilmington V. A. Medical Center
   Maximum 1
38 Albert Einstein Medical Center
   Maximum 1

MED. 481  Geriatric Medicine  (Dr. Mingioni)
Credits 6. 10th through 21st Teaching Blocks.

Students are exposed to geriatric practices at multiple sites, including inpatient, primary care, consultation service, ambulatory practices, nursing homes, hospices and home care. Students also participate in weekly geriatrics seminars and general medicine conferences. Topics focus on chronic illnesses, functional disability and long-term care.

Location:
38 Albert Einstein Medical Center
   Maximum 1

MED. 488  Introduction to Medicine-Pediatrics  (Dr. Friedland)
Credits 6. 10th through 21st Teaching Blocks.

The student will gain an appreciation of the breadth and scope of combined medicine-pediatrics practice. Emphasis will be placed on the development of skills required to address the primary care problems that affect adults and children. Students rotate through inpatient services in pediatrics and internal medicine, spending two weeks in each. Students also attend the medicine - pediatrics outpatient clinic one half day per week and are encouraged to follow up on patients discharged from their inpatient service. Formal didactic conferences include morning report, noon lectures and grand rounds. Students are closely supervised.
by full-time faculty during the inpatient and outpatient components of the rotation.

**Location:**
15 Christiana Care Health Services-Christiana Hospital
by arrangement with Dr. Friedland-Christiana: Maximum: 1
10th, 11th, 12th, 13th Blocks only.

**MED. 489 Rheumatology (Dr. Sloan)**
Credits 6. 10th through 21st Teaching Blocks.

This externship provides clinical, laboratory, and radiologic study of patients with musculoskeletal-articular disorders or diseases. There is evaluation, treatment, and follow-up of inpatients and outpatients under the guidance of rheumatology fellows and attending staff. Literature reviews and seminars complement the clinical program.

**Location:**
01 Thomas Jefferson University Hospital
Maximum 1
15 Christiana Care Health Services-Christiana Hospital
Maximum 1
22 Wilmington V. A. Medical Center
Maximum 1
39 Reading Hospital
Maximum 1
43 York Hospital
Maximum 1

**MED. 490 Women’s Health (Dr. Mingionti)**
Credits 6. Blocks 10th through 21st.

The Women’s Health Elective allows the student to experience providing health care for women from a multi-disciplinary approach. The student spends time with surgery and radiation oncology reviewing breast cancer; obstetrics and gynecology learning the basics of the pelvic exam, infertility and contraception issues; maternal fetal medicine reviewing medical disorders during pregnancy; rheumatology reviewing osteoporosis; internal medicine to review primary care and preventative health care issues in women; and visit an inpatient facility for patients with eating disorders.

There is a weekly journal club session to review current women’s health care topics in the current literature.

**Location:**
01 Thomas Jefferson University Hospital
Maximum 1 student per block
MED. 491  **Endocrinology**  (Dr. Ahmed and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

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

**Location:**
- 01 Thomas Jefferson University Hospital
  Maximum 2
- 10 Methodist Hospital
  Maximum 1
- 15 Christiana Care Health Services-Christiana Hospital
  Maximum 1
- 38 Albert Einstein Medical Center (Blocks 11th through 12th only)
  Maximum 1
- 43 York Hospital
  Maximum 1

MED. 495  **Clinical Oncology**  (Dr. Filicko and Faculty)
Credits 6. 10th through 21st Teaching Blocks.

The goal of this elective 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.

**Location:**
- 01 Thomas Jefferson University Hospital
  Maximum 2, 11th to 21st Blocks only.
- 39 Reading Hospital
  Maximum 1

MED. 498  **Preceptorship**  (Dr. Salt)

Preceptorships in focused areas of study are available upon arrangement with individual faculty members. Examples of these electives would include Aerospace Medicine, Clinical Research with a member of the Department of Medicine, or basic laboratory research with a member of the Department.

**Location:**
Nonaffliate only
**MED. 499 Gateway to Internship**
Credits 6. 18th Teaching Block
Maximum 60
Enrollment: By lottery.

The Goal of the Gateway course is to provide fourth year medical students with the tools necessary to make the transition from medical school to internship and residency regardless of their future specialty. This course will be offered Block 18 only and will be filled on a lottery basis. During this month long course 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 signout and crossovering 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 course is primarily interactive and will have a medicine track (IM, preliminary year interns), a surgery track (general surgery, surgical subspecialties and obstetrics/gynecology) and a Pediatric/EM/FM track (including Peds, EM and FM).
Microbiology and Immunology

Chairman
Tim L. Manser, PhD, Dr. V. Watson Pugh and Frances Plimpton Pugh Professor, Chairman of the Department

Program Directors
Christopher M. Snyder, PhD, Assistant Professor of Microbiology and Immunology and Course Coordinator for MICRO 201, Infection, Immunity and Disease
Kishore Alugupalli, PhD, Associate Professor of Microbiology and Immunology
Jerome Buescher, PhD, Assistant Professor of Microbiology and Immunology
Catherine Calkins, PhD, Professor of Microbiology and Immunology
James McGettigan, PhD, Assistant Professor of Microbiology and Immunology
Matthias Schnell, PhD, Professor of Microbiology and Immunology
Luis Sigal, PhD, Professor of Microbiology and Immunology
Christopher Snyder, PhD, Assistant Professor of Microbiology and Immunology

Core Curriculum
MICRO. 201  Infection, Immunity and Disease
(Dr. Snyder and Faculty)
Credits 12. First Teaching Block. Second year.
For a full description, please see the Educational Program section of this catalog.

Clinical Curriculum
MICRO. 425  Research Elective in Microbiology
(Dr. Snyder and Faculty)
Credits 6. Enrollment: Minimum 1
Individual short-term projects are arranged for students interested in Immunology or Microbiology. This course is offered only after prior consultation with the appropriate staff.
Molecular Physiology & Biophysics

**Chairperson**
Marion J. Siegman, PhD, Professor of Physiology

**Vice Chairperson**
Masumi Eto, PhD, Associate Professor of Physiology

**Clinical Curriculum**

**PHYSI. 405 Physiologic Research**
(Staff)
Credits 6. 10th through 20th Teaching Blocks.
Enrollment: Open.

This course involves participation in ongoing projects within the Department as well as those in other Departments at Thomas Jefferson University that are approved by us. Within the Department projects include smooth muscle activation, regulation and energetics, molecular biology of ion channels and exocytosis, and signal transduction mechanisms: role of G-proteins and phosphatases. Research projects performed in other departments require an approved research proposal what includes rationale, specific aims, and experimental design. Upon completion of the course a written paper is required which may also be a manuscript suitable for publication.

Since each student that takes this course is enrolled in an individual laboratory, there is no minimum or maximum necessary.

Approved Advanced Basic Science Rotation.
Neurology

Chairman
A.M. Rostami, MD, PhD, Chair and Professor, Department of Neurology

Vice Chairman
Rodney Bell, MD, Professor of Neurology and Vice Chairman for Hospital Affairs

Michael Sperling, MD, Professor of Neurology and Vice Chair for Outpatient Services

Directors
Christopher Skidmore, MD, Assistant Professor of Neurology and Director of Residency Education

George Brainard, PhD, Professor of Neurology and Course Coordinator, First Year Neuroscience: Neurology

Daniel Kremens, MD, Assistant Professor of Neurology and Course Coordinator, Medical Student Education: Neurology Clerkship

Scott Mintzer, MD, Associate Professor of Neurology and Course Coordinator, Second Year Foundations of Clinical Medicine: Neurology

Education Coordinators
Jody Volpe, MBA, Graduate Medical Education Coordinator

Deborah Salvatore, Undergraduate Medical Education Coordinator

Clinical Curriculum

NEUR. 350 Neurology (Dr. Kremens)
Credits 5. 10th through 21st Teaching Blocks.

Neurology 350 is a four-week core rotation in the third year in which students are introduced to the principles and practice of Adult Neurology. During the rotation, students will be expected to elicit an accurate neurological history, to perform and interpret a neurological examination, to appropriately order studies in neurology, to appropriately evaluate and treat common neurological problems and to acquire the many personal attributes necessary for becoming an effective physician, including honesty, compassion, reliability, and effective communication skills. Students will be expected to work as a member of the team to which he/she is assigned, and participate in all work rounds, attending rounds, and conferences.
The curriculum for the rotation is based on-line and consists of readings, videos and powerpoint presentations focusing on developing primary care skills in the evaluation and management of common neurological problems.

Students are evaluated by resident physicians and their attending preceptors at mid-rotation and at the end of the rotation. Grading for the rotation is based upon the written evaluations of your residents and attending physicians, completion of two brief reflective self-directed presentations and submission of two online quizzes.

**Location:**
- 01 Thomas Jefferson University Hospital
- 07 Lankenau Hospital
- 15 Christiana Care Health Services
- 38 Albert Einstein Medical Center

**NEUR. 401 Neurology**  
(Dr. Kremens)  
Credits 6. 10th through 21st Teaching Blocks.

A clinical clerkship on the wards at Thomas Jefferson University Hospital or affiliated hospitals is offered for each four-week block. During this period, the student acts as extern under the supervision of resident house officers and attending neurologists. Students must have completed IDPT. 400 Neurology/Rehab course before being allowed to take this elective. Department approval is also required.

**Location:**
- 01 Thomas Jefferson University Hospital  
  Maximum 2

**NEUR. 425 Research Elective**  
(Dr. Oshinsky)

This elective rotation 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 listed above. For this approval, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective.
Neurological Surgery

Chairman
Robert H. Rosenwasser, MD, FACS, FAHA, The Jewell L. Osterholm, MD Professor and Chair Department of Neurological Surgery, Professor of Radiology

Division Directors
David W. Andrews, MD, FACS, Professor of Neurological Surgery, Vice Chairman for Clinical Services and Director of the Division of NeuroOncologic Neurosurgery and Stereotactic Radiosurgery
Ashwini D. Sharan, MD, FACS, Professor of Neurological Surgery and Neurology, Director of the Division of Functional Neurosurgery
James S. Harrop, MD, FACS, Professor of Neurological and Orthopedic Surgery, Director of Division of Spine and Peripheral Nerve Disorders
Pascal M. Jabbour, MD, Associate Professor of Neurological Surgery, Director of the Division of Neurovascular Surgery and Endovascular Neurosurgery
Jack Jallo, MD, PhD, FACS, Professor of Neurological Surgery, Director of the Division of Neuro-Trauma and Critical Care

Education Coordinator
Janice Longo

Clinical Curriculum

NSRG. 401 Clinical Clerkship in Neurosurgery
(Drs. Rosenwasser, Tjoumakaris and staff)
Credits 6. 10th through 21st Teaching Blocks.

Students participate in the 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. The student participates in diagnostic studies and their 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.

Location:
01 Thomas Jefferson University Hospital
Minimum 3, Maximum 20

NSRG. 403 Research Elective in Neurosurgery
(Drs. Rosenwasser, Tjoumakaris and staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Maximum 2

Individual short-term projects are arranged for students interested in transmitter biochemistry, electrophysiology, bioengineering, spinal cord injury, cerebrovascular disease, molecular genetics, neurooncology, or brain tumor research. This course is offered only after prior consultation with the appropriate staff. Students can contact Dr. Tjoumakaris to discuss and propose research projects within the field of Neurosurgery.
Obstetrics and Gynecology

Chairman
William Schlaff, MD, Paul A. and Eloise B. Bowers Professor and Chair of the Department

Vice Chairman
Thomas A. Klein, MD, Clinical Professor of Obstetrics and Gynecology

Division Directors
Vincenzo Berghella, MD, Professor of Obstetrics and Gynecology, Director of the Division of Maternal Fetal Medicine, and Director of the Maternal-Fetal Medicine Fellowship Program

Gregory T. Fossum, MD, Associate Professor of Obstetrics and Gynecology Director of the Division of Reproductive Endocrinology and Infertility

Sandra Dayaratna, MD, Clinical Associate Professor of Obstetrics and Gynecology, Director of the Generalist Division

Joseph Montella, MD, Associate Professor of Obstetrics and Gynecology, Director of the Division of Gynecologic Oncology

Norman G. Rosenblum, MD, Professor of Obstetrics and Gynecology, Director of the Division of Gynecologic Oncology

Stuart Weiner, MD, Professor of Obstetrics and Gynecology, Director of the Division of Reproductive Imaging

Abigail Wolf, MD, Associate Professor of Obstetrics and Gynecology, Residency Program Director

Undergraduate Education
Katherine Lackritz, MD, Assistant Professor of Obstetrics and Gynecology, Assistant Clerkship Director

Abigail Wolf, MD, Associate Professor of Obstetrics and Gynecology, Clerkship Director

Education Coordinators
Joellen Hodorovich
Diana Brooke
Clinical Curriculum

OB/GYN. 350 Clerkship in Obstetrics and Gynecology
(Dr. Lackritz and Faculty)
Credits 7. 1st through 8th Teaching Blocks.

For a full description, please see the Educational Program section of this catalog.

OB/GYN. 351 Final Written Examination in Obstetrics and Gynecology
Credits 2.

OB/GYN. 402 Outpatient Sub-Internship
(Dr. Lackritz and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: One per site

The objective of this rotation is to provide fourth year medical students with the opportunity to work independently in the outpatient setting. Students learn routine ambulatory preventative gynecologic care; competently perform breast and pelvic exams; competently evaluate and counsel patients presenting for contraceptive, preconception and menopausal care; recognize gross and microscopic gynecologic pathology; and learn routine care of uncomplicated antepartum patients. Students will see patients with an upper-year resident or an attending. They will see both obstetric and gynecologic patients in continuity. They also attend several subspecialty clinics during the rotation including an optional weekly session at Planned Parenthood. Students are assigned a mentor from the clinic attending staff who writes the final evaluation based on feedback from residents, faculty and staff.

OB/GYN. 405 Fourth-Year Clerkship in Obstetrics and Gynecology
(Dr. Baxter and Faculty)
Prerequisite: OB/GYN 350-351
Credits 6. 10th through 21st Teaching Blocks

This fourth-year clerkship is expressly designed for those students with a particular interest in research. This includes not only those students who plan to make a career in obstetrics and gynecology, but also students who plan careers in family medicine, internal medicine, surgery, or the neurosciences. The content of the clerkship is designed to give more in-depth experience than obtained in Ob/Gyn. 350-351, and is specifically tailored to meet the needs of each student, in consultation with the principal investigator in the assigned research project.

Lankenau/Gynecologic Inpatient Sub-I 401 (This DOES count as a required Inpatient Sub I) (open only to Thomas Jefferson University Students)
This rotation is only open to students from Thomas Jefferson University who are in their fourth (4) year. In order to apply for this block, AF-TER partaking in the lottery, and registering, you must contact the Ob/Gyn student clerkship director at Lankenau. You will not be allowed to participate nor receive credit if you do not go through the appropriate steps. After lottery and registration, for questions regarding this rotation please contact Ms. Rosemarie Weisenbach (weisenbachr@mlhs.org)

This is an inpatient Acting Internship focused on surgical Gynecology. The fourth year student will assist in the operating room, round on patients and present a Morning Report. The student will be primarily on benign gynecology but the experience can be expanded based on student interests to include Uro-Gynecology cases, REI cases and Emergency cases/consults as applicable. The student will be first assist in cases as appropriate.

**Location:**

07 Lankenau Hospital 
Dr. Belden and Faculty: maximum 1

**OB/GYN. 407 Gynecologic Endocrinology** (Dr. Fossum and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: maximum 1.

This elective provides the student experience in both inpatient and outpatient care of problems in reproductive endocrinology. The skills to be developed during this elective include an understanding of reproductive physiology, the diagnosis of common endocrinopathies, and therapeutics for these problems in the clinical setting. A portion of each working day is devoted to formal presentations, conferences, and patient care. The student is responsible for presenting material during this time, including case reports to various conferences and literature reviews in a journal club.

**OB/GYN. 408 Gynecologic Oncology** (Dr. Rosenblum and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: maximum 1.

This clerkship is conducted as a preceptorship, with the student becoming part of the gyn oncology team and working closely with the physicians of the team. The student participates in hospital rounds, in the initial work-up and evaluation of patients, and in therapy planning. The student attends outpatient follow-up clinics and will accompany patients to the operating room to either observe or assist. The student participates in the clinics and conferences held jointly by the Division of Gynecologic Oncology, the Department of Radiation Oncology and the Department of Pathology.
OB/GYN. 409  Maternal Fetal Medicine (Inpatient)  
(Dr. Berghella and Staff)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: maximum 1 per site.  

The Jefferson Maternal-Fetal Medicine division has four full-time faculty members who afford the student the opportunity for varied exposure to the management of the high-risk pregnant patient.  

Clinical experience in the inpatient elective will consist of obstetric consults, medical management of disease in pregnancy, obstetric complications, and ultrasound. The student will participate actively in the Maternal Fetal Medicine team consisting of an attending, a fellow and three residents. The student will be involved directly in patient workup, management and high-risk deliveries.  

Additional educational sessions will include a weekly MFM patient-discussion conference, monthly research meeting, monthly U/S conference, and biweekly fetal-therapy meetings. A summary evaluation will be written based upon individual attending evaluations.  

Students will also participate in the high risk clinic at Jefferson Ob/Gyn Associates (JOGA).  

Location:  
01 Thomas Jefferson University Hospital: maximum 1  
27 West Jersey Jersey Virtua  

OB/GYN. 411  Maternal Fetal Medicine (MFM) Out-patient Elective  
(Drs. Shah and Lackritz)  
Credits 6.  All Teaching Blocks  
Enrollment: 1 student per block  

The purpose of this rotation is to further develop skills in diagnosis and management of common and uncommon obstetric complications in the outpatient setting. Common issues such as preterm labor, preeclampsia, diabetes in pregnancy, fetal anomalies and illicit drug use in pregnancy will be addressed. Students will be asked to present a specific topic to the MFM team and to become expert on that topic.  

The rotation is divided between Jefferson Ob/Gyn Associates (JOGA) at 834 Chestnut St., Suite 420 and West Jersey Hospital in Vorhees, NJ. Students will see patients in the outpatient clinic under the direction of the MFM team. Students will also participate in ultrasound, out-patient procedures and consults. Students will attend the MFM conference from 8:00 to 10:00 on Thursdays at Thomas Jefferson University. There are
no weekend or evening hours. Students will be evaluated by residents, fellows and attendings on the MFM service.

**Location:**
27 West Jersey Jersey Virtua—maximum 1

**OB/GYN. 425 (Dr. Baxter)**

This elective rotation will provide the student with a self directed 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 listed above. For this approval, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective.

*The Winged Ox, symbol of St. Luke the physician.*
Ophthalmology

Chair
Julia A. Haller, MD, Professor of Ophthalmology, Ophthalmologist-in-Chief, Wills Eye Hospital and Chair, Department of Ophthalmology

Directors
Robert S. Bailey, Jr. MD, Associate Professor of Ophthalmology and Director of the Cataract/Primary Eye Care Service
Mark H. Blecher, MD, Clinical Assistant Professor of Ophthalmology and Co-Director of the Cataract/Primary Eye Care Service
Carl D. Regillo, MD, Professor of Ophthalmology and Director of the Retina Service
Christopher J. Rapuano, MD, Professor of Ophthalmology and Director of the Cornea Service
Ann P. Murchison, MD, Associate Professor of Ophthalmology and Co-Director of the Emergency Services
Ralph C. Eagle, Jr., MD, Professor of Ophthalmology and Director of the Ocular Pathology Service
David H. Fischer, MD, Associate Professor of Ophthalmology and Co-Director of the Retina Service
Joseph C. Flanagan, MD, Professor of Ophthalmology and Director Emeritus of the Oculoplastic Service
Edward A. Jaeger, MD, Professor of Ophthalmology and Director Emeritus of Medical Student Education
L. Jay Katz, MD, Professor of Ophthalmology and Director of the Glaucoma Service
Peter R. Laibson, MD, Professor of Ophthalmology and Director Emeritus of the Cornea Service
Sharon S. Lehman, MD, Associate Professor of Ophthalmology and Director of Ophthalmology at duPont Hospital for Children
Alex V. Levin, MD, Professor of Ophthalmology and Director of the Pediatric and Ocular Genetic Services
Bruce J. Markovitz, MD, Clinical Assistant Professor of Ophthalmology and Director of Medical Student Education
Clinical Curriculum

OPHT. 401  Clinical Clerkship in Ophthalmology
(Drs. Markovitz, Uhler and Staff)
Credits 6. 10th through 21st Teaching Blocks.

The clerkship in ophthalmology 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.

Location:
07 Lankenau Hospital
Dr. Penne: Maximum 1
14 Wills Eye Hospital
Drs. Markovitz and
25 Wilmington Hospital
**OPHT. 407  Basic Ocular Pathology**  
(Dr. Eagle and Staff)

Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Maximum 2.

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 clerkship.

For a full description, please see the Educational Program section of this catalog.

**IDPT. 425  Basic Research**  
(Drs. Eagle, Markovitz, Uhler and Staff)

Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Maximum 2.

Open to students who have interest in research as well as Ophthalmology, this block may be taken at Wills Eye Hospital, but must meet the approval of the course coordinators. Generally, students accepted for this clerkship have been involved in an ongoing research project.

**OPHT. 408  Ocular Genetics**  
(Dr. Levin and Staff)

All Blocks Except August: Maximum 1.

The ocular genetics program at Wills cares for children and adults with genetic eye disease or genetic systemic disease with ocular involvement. Students will attend clinics, genetic counseling sessions, clinics of medical geneticists, didactic sessions and case conferences. There is an opportunity to write a case report for publication. The student will be actively involved in patient care including management of our ocular genetics database.

**OPHT. 482  Pediatric Ophthalmology and Strabismus**  
(Dr. Levin and Staff)

All Blocks: Maximum 1.

A comprehensive experience 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 conferences, and have the opportunity to write case report for publication is desired.
Orthopaedic Surgery

Chairman
Alexander R. Vaccaro, MD, PhD, Richard H. Rothman Professor and Chairman, Department of Orthopaedic Surgery Professor of Neurosurgery; Co-Director, Delaware Valley Spinal Cord Injury Center Co-Chief of Spine Surgery Sidney Kimmel Medical Center at Thomas Jefferson University; President, Rothman Institute

Division Directors
Alan S. Hilibrand, MD, The Joseph and Marie Field Professor of Spinal Surgery, Vice Chair of Academic Affairs and Faculty Development, Co-Chief of Spinal Surgery, Director of Orthopaedic Medical Education, Professor of Neurological Surgery

James J. Purtill, MD, Vice Chairman of Education and Professor of Orthopaedic Surgery and Director of Residency

Javad Parvizi, MD, Professor, Department of Orthopaedic Surgery; Vice Chairman of Research; Director, Clinical Joint Research

Administrator
Susan Randolph

Clinical Curriculum

ORTH. 401 Clinical Clerkship (Dr. Hilibrand and Staff)
Credits 6. 10th through 21st Teaching Blocks.

This is a fourth year elective designed for medical students interested in pursuing a career in orthopaedic surgery. It is an intensive subinternship style experience. The student will spend two weeks on one of the primary inpatient services (either spine service or total joint service), as well as two weeks on one of the other orthopaedic services (foot and ankle, hand, sports, shoulder or pediatrics). Students will be assigned to a chief resident “mentor” who will be responsible for following the students during the two week subrotation. Under the direction of the chief 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.

A previous completion of IDEPT Orthopaedic Elective is necessary as a prerequisite to this course. Please note that this course is only offered
at Thomas Jefferson University Hospital (with the exception of the pediatric rotation which is at the AI DuPont Institute). Additional electives are available at our affiliate, Albert Einstein Medical Center.

**ORTH. 402** Research Elective  
(Dr. Parvizi and Staff)  
Credits 6. 10th through 21st Teaching Blocks.

**IDPT. 401** Interdepartmental Outpatient Sub-Internship in Musculoskeletal Medicine  
(Dr. Ankam)  
Fourth-year students. Must have transportation.  
5 days per week for 4 weeks.  
Credits 6. All teaching blocks except 18 and 21.  
Enrollment: Maximum 5 per teaching block.

**IDPT. 410** Surgical Subspecialties  
Credits 9. All Teaching Blocks.  
Enrollment: Maximum 39.
Clinical Curriculum

OTOL. 401 Clerkships and Outpatient Clinics  (Dr. Keane and Faculty)

Students are assigned to the Otolaryngology Service at Thomas Jefferson University Hospital for a four week block. 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. Elective students are treated as though they were junior interns.

OTOL. 425  (Dr. Luginbuhl)

This elective rotation 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 listed above. For this approval, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective.

Surgical Specialties and Selectives
Credits 9. All Teaching Blocks.
Enrollment: 6 students per block.
Pathology, Anatomy and Cell Biology

Chairman
Stephen C. Peiper, MD, Peter A. Herbut Professor and Chair of Pathology, Anatomy and Cell Biology

Vice Chairmen
Joanna Chan, MD, Asst. Professor of Pathology, Anatomy and Cell Biology Director, Pathology 4th Year Core Clerkships

Bruce Fenderson, PhD, Professor of Pathology, Anatomy and Cell Biology Director, Foundations of Pathology/Pharmacology

Gerald Grunwald, PhD, Professor of Pathology, Anatomy and Cell Biology Director, The Systems I

Joannes B. Hoek, PhD, Professor of Pathology, Anatomy and Cell Biology Vice Chair for Research Director, Molecular & Cellular Basis of Medicine

Sue Menko, PhD, Professor of Pathology, Anatomy and Cell Biology, Vice Chair, Anatomy Director, Molecular and Cellular Basis of Medicine

Nancy Philp, PhD, Assoc. Professor of Pathology, Anatomy and Cell Biology Director, Cell & Developmental Biology PhD Program

Richard R. Schmidt, PhD, Professor of Pathology, Anatomy and Cell Biology Vice Chair, Education Development for Anatomy Director, Human Form and Development Director, Anatomy (ABS)

David S. Strayer, MD, Professor of Pathology, Anatomy and Cell Biology Pathology Liaison – Fundamentals of Clinical Medicine

Theodore F. Taraschi, PhD, Professor of Pathology, Anatomy and Cell Biology Vice Chair, Education

Education Coordinators
Sharon Egleston
Danielle Park
Clinical Curriculum

PATH. 401  General Pathology  (Dr. Chan)
Credits 6. 10th through 20th Teaching Blocks except 18th
Maximum Enrollment: 4 Students per teaching block

The course consists of theoretical and practical applications of specific areas in Pathology. The student will rotate through Surgical Pathology and Autopsy, and two chosen laboratory areas. The laboratory areas that are available include Neuropathology, Cytopathology, Hematopathology, Microbiology, Transfusions Medicine and Molecular. At the end of this rotation you will present an interesting case that shows something you have learned during the elective as a 10 minute PowerPoint presentation. The residents will assist you with photos for your presentation.

ANAT. 401  Special Topics in Anatomy  (Dr. Spudich and Staff)
Credits 6. 11th, 12th, and 13th Teaching Blocks.
Enrollment: Maximum 8 per block.

This course is geared to the student looking to pursue a career in academic medicine and parallels the Human Form and Development (Anat105) course. Participants will assist in all the ANAT105 dissection labs scheduled for their block and develop their instructional skills. Participants will also develop their teaching styles through weekly sessions where they will peer-teach their block cohorts in select sub-topics of anatomy (i.e. embryology, radiology, osteology). Assessment will include a full 360 evaluation of their instructional skills, copies of which will be given to each participant so they might begin the construction of their own teaching portfolio.

(Approved Advanced Basic Science Rotation.)

PATH. 402  Hematopathology  (Dr. Gong)
Credits 6. 11th through 20th Teaching Blocks except 18th
Maximum Enrollment: 1 student per Teaching Block
Pre-requisite: Path 401

This course is an elective that may be taken by senior students who plan to pursue a future career in pathology or hematology/oncology. This course satisfies the advanced basic science elective in the fourth-year curriculum. This four-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 rotation clinical case presentation.

**ANAT. 402 Research** (Dr. Schmidt and Staff)
Credits 6. All Teaching Blocks.
Enrollment: by arrangement.

This course involves independent study with projects designed between student and mentor to expand our knowledge of anatomy, in either the clinical or basic science arenas. Projects can be novel research or a facet of an ongoing faculty project but must have a marked anatomical focus. This research may be done at Thomas Jefferson University or at another institution. Consent of both the selected professor and project approval by the Subcommittee on Advanced Basic Science is required.

**ANAT. 403 Advanced Neuroanatomy** (Dr. Grunwald and Staff)
Credits 6. 16th Teaching Block.
Enrollment: by arrangement.

This course covers advanced topics in neuroscience and involves the in-depth research of a mutually agreeable topic culminating in the submission of a comprehensive written review of this topic. During this block students also participate as neuroanatomy laboratory teaching assistants to review neuroanatomy and enhance their teaching skills.

(Approved Advanced Basic Science Rotation.)

**PATH. 404 Post-mortem Pathology** (Dr. Chan)
Credits 6. 11th through 20 Teaching Blocks except 18th
Maximum Enrollment: 1 student per teaching block.
Prerequisite: Path 401

Observe and assist in at least one full adult autopsy, develop an appreciation for the correlation of clinical and pathologic findings, improve ability to interpret radiologic and laboratory data in light of pathologic findings, review general anatomy. Methods; Attendance at and participation in the activities of the autopsy service, assist the resident(s) during autopsy, assist the resident with data collection and research, attend microscopic sign-out of all cases reviewed during the week, use free time to review basic anatomy and histology, using books and slide sets available from the Chief Resident. At the end of this rotation you will present an interesting autopsy as a 10 minute PowerPoint presentation.

**ANAT. 404 Applied Anatomy** (Dr. Shea and Staff)
Credits 6. 16th Teaching Block.
Enrollment: Minimum 4, maximum 16.
Through relevant prosection and specific tutorials, the course emphasizes contemporary aspects of surface and clinical anatomical knowledge of various systems, imaging, legislation related to organ and body donation, preservation and embalming. Aside from daily prosection from 9:00 AM until noon, participation at weekly prosection conferences is mandatory. Such conferences are customarily presented Thursdays from 9:00 AM onwards; anatomy faculty attends these as well.

Students are assigned to the dissecting room to gain experience in planning prosections. Regional or systemic approaches are determined in consultation with the instructor. Aside from tutorials, students are expected to organize weekly conferences to discuss osteology, surface anatomy and cross sectional imaging.

(Granted Advanced Basic Science Rotation.)

**PATH. 408 Advance study in Pathology** (Dr. Chan)
Credits 6. 11th through 20 except 18th Teaching Blocks.
Maximum Enrollment: 1 student per teaching block.
Prerequisite: Path 401

Understanding the role of Surgical Pathology in diagnosis, patient care and management and the importance of clinicopathologic correlation – i.e., correlation with history, surgery, endoscopy, radiology, labs, etc. Appreciate the value to knowing normal histology in order to better understand pathologic conditions, understand the role of frozen sections and intraoperative consultation, reinforce concepts of tumor grading and staging, understand how we gross and processing tissue; specifically observe gross dissection and gross descriptions, become acquainted with microscopic evaluation and the use of ancillary studies to render a diagnosis (e.g. immunohistochemistry, special stains, molecular, etc.)
Pediatrics

Chairman
Jay S. Greenspan, MD, MBA, Professor of Pediatrics and Chairman of the Department

Vice Chairmen
Steven M. Selbst, MD, Professor of Pediatrics and Vice Chairman of the Department

Directors
Alisa LoSasso, MD, Associate Professor of Pediatrics and Director of Medical Education for the Department
Catherine M. Soprano, MD, Assistant Professor of Pediatrics and Associate Director of Medical Education for the Department

Education Coordinator
Sybil Fullard-McLaurin

Clinical Curriculum

PED. 350  Clinical Clerkships  (Dr. LoSasso)
Credits 7.  1st through 8th Teaching Blocks.

For a full description, please see the Educational Program section of this catalog.

PED. 351  Final Written Examination in Pediatrics
Credits 2.

PED. 401  Outpatient Subinternship  (Pediatric Faculty)
Credits 6.  10th through 21st Teaching Blocks.

This clerkship may be taken at Thomas Jefferson University Hospital, Jessup Street duPont practice, Einstein and Christiana Care Health Services–Wilmington Hospital. The student works with the house staff in caring for outpatients and has responsibility for managing these patients commensurate with his/her skills and experience. This clerkship may be taken from the tenth through twentieth teaching blocks at other hospitals by arrangement, but will not be considered as the required course.

Location:
01 Thomas Jefferson University Hospital
Maximum 1
15 Christiana, Wilmington Clinic
   Maximum 1
28 The A. I. duPont Hospital for Children
   Maximum 4
38 Albert Einstein Medical Center
   Maximum 1

**PED. 402 Inpatient Subinternship** (Pediatric Faculty)
Credits 6. 10th through 21st Teaching Blocks.

This clerkship may be taken at Thomas Jefferson University Hospital, The duPont Hospital for Children, Christiana Care Health Services–Christiana Hospital, or Bryn Mawr Hospital. The student acts as an intern, being assigned pediatric inpatients and supervised by the house staff. This experience includes history taking, physical examination and formulation of a diagnosis and plan of therapy, as well as supervised performance of diagnostic procedures. This rotation may be taken at other hospitals by arrangement, but will not be considered as the required course.

**Location:**
01 Thomas Jefferson University Hospital
   Maximum 1
03 Bryn Mawr Hospital
   Maximum 1
15 Christiana Care Health Services
   Maximum 1
28 The A. I. duPont Hospital for Children
   Maximum 4
38 Einstein Medical Center
   Maximum 1

**PED. 403 Intensive Care Nursery** (Neonatology Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: by arrangement.

This elective allows the student to participate in the management of premature and sick newborn infants under the direction of the senior staff and the house officers assigned to the intensive care nursery. It offers an opportunity to learn about current methods of managing such problems as respiratory distress, hyperbilirubenemia, hypoglycemia, and neonatal surgical emergencies. This elective may be taken at other hospitals by arrangement.

**Location:**
01 Thomas Jefferson University Hospital
   Maximum 1
PED. 404  Neurodevelopmental Pediatrics  (Faculty)
Credits 6.  10th through 21st Teaching Blocks.
Enrollment: Maximum 1.

This elective offers the student the opportunity to observe and participate in evaluations of children with a variety of developmental problems, such as autism, cerebral palsy, and attention deficit disorders. This includes observation of psychological evaluations of preschool and school-age children. The student also participates in conferences held with the parents of the children being evaluated. At the completion of the elective, the student should have a fine appreciation of normal child development and the types of developmental problems confronted by pediatricians and by schools.

PED. 405  Pediatric Emergency Medicine  (Dr. DePiero)
Credits 6.  10th through 20th Teaching Blocks.
Enrollment: By arrangement.

This elective provides the student with a general pediatric experience in the emergency department setting. A wide range of pediatric problems are seen in children from newborn to age 21. The student performs histories and physical examinations under direct supervision of a pediatric attending. Topics in pediatric emergency medicine and/or ER case conferences are held three times per week. There are opportunities to learn about pediatric resuscitation and management of other acute emergencies. (DOES NOT COUNT TOWARD REQUIRED EMERGENCY MEDICINE CLERKSHIP).

Location:
28 The A.I. duPont Hospital for Children
Maximum 1

PED. 410  Adolescent/Pediatric Gastroenterology  (Gastroenterology Faculty)
Credits 6.  10th through 21st Teaching Blocks.
Enrollment: By arrangement.

The student works in a preceptorial relationship, helping in the evaluation and management of children and adolescents with a variety of gastrointestinal disorders such as inflammatory bowel disease, eating disorders, chronic constipation, gastroesophageal reflux, and motility disorders. The experience encompasses both ambulatory and inpatient evaluations. This elective may be taken at other hospitals by arrangement.
Location:
01 Thomas Jefferson University Hospital
28 The A.I. duPont Hospital for Children

Maximum 1

PED. 411 Pediatric Allergy (Dr. DeFelice)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This elective involves both inpatient and outpatient activities and introduces the student to such procedures as skin testing and hyposensitization. Current concepts of immunology and pulmonary physiology are reviewed. Experience in managing status asthmaticus and chronic respiratory disease is also offered. This elective may be taken at other hospitals by arrangement.

Location:
28 Thomas Jefferson University Hospital/The A.I. duPont Hospital for Children

Maximum 1

PED. 412 Pediatric Dermatology
Credits 6. All Teaching Blocks.
Enrollment: By arrangement.

PED. 413 Pediatric Cardiology (Dr. Ritz)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This elective 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. Attendance at Pediatric Cardiology Clinic as well as hospital rounds on cardiac patients, is expected. In-depth review in any area relevant to pediatric cardiology can be arranged on an individual basis. This elective may be taken at other hospitals by arrangement.

Location:
28 The A.I. duPont Hospital for Children

Maximum 1

PED. 415 Pediatric Neurology (Dr. Falcek)
Credits 6. 10th through 20th Teaching Blocks.
Enrollment: By arrangement.

This elective offers the student the opportunity to participate in the evaluation and management of both common and unusual pediatric
neurological disorders. The student should learn to perform a thorough pediatric neurological examination on patients seen in the outpatient department and on admission to the hospital. The student also participates in the neurology consult service.

**Location:**
28 The A.I. duPont Hospital for Children

**PED. 417 Pediatric Nephrology** (Dr. Zaritksy)
Credits 6. 10th through 20th Teaching Blocks.
Enrollment: By arrangement.

This elective exposes the student to acute renal emergencies as well as chronic disease care. Both inpatient and outpatient exposure will be available. Course objectives emphasize pathophysiology, evaluation, and treatment. This elective may be taken at other hospitals by arrangement.

**Location:**
28 The A.I. duPont Hospital for Children

**PED. 418 Pediatric Rheumatology** (Dr. Brescia)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This elective at The duPont Hospital for Children 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 and selected forms of other rheumatic diseases. Patients are evaluated in both the inpatient and outpatient areas.

**PED. 419 Pediatric Hematology/Oncology** (Dr. Walter)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

The Pediatric Hematology/Oncology rotation is designed to provide exposure to a wide range of inpatient and outpatient pediatric hematology/oncology patients. Students are expected to participate in the evaluation of new consults. They are involved with the daily hematology/oncology teaching rounds, weekly psychological conference, weekly Tumor Board, and the monthly hematology/oncology teaching conference. They are also required to give a 20 to 30 minute talk on a pediatric hematology/oncology subject.

**Location:**
28 The A.I. duPont Hospital for Children
PED. 420  Psychology  
Credits 6. All Teaching Blocks.

PED. 421  Pediatric Endocrinology  (Dr. Doyle)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: By arrangement.

This elective covers both inpatient and outpatient experiences. The student evaluates all new patients in the clinic and consults on the inpatient service. Daily tutorials as well as a combined pediatric/internal medicine endocrine conference are provided. Abnormal growth, diabetes, puberty, and sexual differentiation cases are evaluated.

Location:  
28 The A.I. duPont Hospital for Children

PED. 425  Children’s Rehabilitation Medicine  (Pediatric Rehabilitation Medicine Faculty)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: By arrangement.

The focus of this elective is on multidisciplinary care of chronically ill and physically handicapped children. The student admits and follows patients with a variety of diagnoses on the inpatient service, observes outpatient therapy services, and participates in physical medicine rounds in the Department of Rehabilitation Medicine. This elective is offered at The duPont Hospital for Children.

Location:  
28 The A.I. duPont Hospital for Children

PED. 426  Pediatric Research  (Various Faculty)  
Credits 6. 10th through 21st Teaching Blocks.

This elective allows the student to participate in pediatric research projects currently being performed by the pediatric staff at Sidney Kimmel Medical College and at the duPont Hospital for Children. This elective may be taken only by arrangement. It may be taken at other hospitals by arrangement.

PED. 430  Advocacy and Community Partnerships Elective  (Dr. Chung)  
One-month elective: (flexible dates).

This elective is offered to PL-2 and PL-3 pediatric and family and community medicine residents and fourth-year medical students who will receive intensive training in community health and advocacy. Trainees will spend 2.5 days per week in patient care at the Jefferson Pediatric,
Jeff OB/GYN practices, or Jefferson Family and Community Medicine practices, and 2.5 days per week at one of the community partner sites.

Trainees will be expected to complete a mutually agreeable project by partnering with an established community organization. The trainees will have the opportunity to present their project at an Advocacy Cafe. Other components of the elective will include participation in the following: Community and Advocacy Cafés, Advocacy Journal Club, Seminar Series.

**Location:**
01 Thomas Jefferson University Hospital

**PED. 431 Diagnostic Referral Services** (Dr. Consolini)
Credits 6. 10th through 20th Teaching Blocks.
Enrollment: by arrangement.

To provide students a unique learning experience in pediatrics; providing to them the opportunity to combine and enhance the outpatient and inpatient skills acquired during the 3rd year Pediatric rotation. The Diagnostic Referral Division has 5 members and will see a diverse group of pediatric patients. Our primary role in the Diagnostic Referral Division is the care of children with multiple complex medical problems and as to act as these patients medical home. This includes seeing new and follow-up patients in our outpatient clinic, our primary patients and new consults on the inpatient service, and one day a week at the KenCrest Transitional homes for children. The KenCrest homes are intermediate care facilities for children with technological needs that cannot be provided for at home. Student will see pediatric diagnostic dilemmas referred to our clinic and in the inpatient setting. Students will also gain exposure to the medical management of both pre- and post-transplant patients as part of our role in the Division of Solid Organ Transplant.

**PED. 432 The Patient Experience: Navigating the System** (Dr. Rosen)
Enrollment: By arrangement

This course will combine patient care and project-related work to achieve a novel curriculum. This curriculum will focus on definitions of patient-centered care, introduction to tools for process improvement, introduction to the field of patient experience and lessons in service from industries outside of health care. This curriculum will be achieved while working as part of a multidisciplinary team on the Pediatrics service.

**PED. 473 Pediatric Infectious Disease** (Dr. Ravin)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.
This elective is designed to give the student a wide exposure to the many pediatric infectious disease problems including HIV, Lyme, and FUO, as well as experience in evaluation, diagnosis, and treatment of seriously ill inpatients. Weekly conferences in infectious disease are provided. Pediatric Infectious Disease is offered at duPont Hospital for Children, but may be taken at other hospitals by arrangement.

**Location:**
28 The A.I. duPont Hospital for Children

**PED. 480 Pediatric Critical Care** (Drs. Cullen and Perry)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This elective is available at duPont Hospital for Children, and offers the student the opportunity to observe and participate in the evaluation and management of critically ill pediatric patients. Patients assessment, evaluation of laboratory data, and assessment of newer technologic advances are the primary mode of education. Pediatric educational conferences are provided.

**Location:**
28 The A.I. duPont Hospital for Children

**PED. 481 Pediatric Pulmonary Medicine** (Dr. Padman)
Credits 6. 10th through 20th Teaching Blocks.
Enrollment: By arrangement.

Students work up and follow children hospitalized on the cystic fibrosis and general pulmonary services and examine youngsters in the outpatient pulmonary, cystic fibrosis, tuberculosis, muscle respiratory, and technology-dependent clinics. Patients encountered while on rotation include those with CF, bronchopulmonary dysplasia, asthma, acute and chronic respiratory failure from diverse etiologies, obstructive/sleep apnea, and empyema. 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.

There are specific lectures and conferences devoted to selected topics in pulmonary medicine and updates in new developments in the form of grand rounds, state-of-the-art lectures, and case management conferences. There is no call. Students are evaluated by the attending staff, using the standard Thomas Jefferson University format.

**Location:**
28 The A.I. duPont Hospital for Children
PED. 482  **Pediatric Ophthalmology** (Dr. Lehman)
Credits 6. 10th through 20th Teaching Blocks
Enrollment: By arrangement

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 clerkship.

**Location:**
28 The A.I. duPont Hospital for Children

PED. 462  **Otolaryngology (ENT)** (Dr. Deutsch)
Credits 6. Monthly

Students are assigned to the Otolaryngology Service at duPont Hospital for Children for a four week block. 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 Wednesday mornings. 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. Elective students are treated as though they were junior interns.

**Location:**
28 duPont Hospital for Children
Pharmacology and Experimental Therapeutics

Chairman
Scott A. Waldman, MD, PhD, Professor of Pharmacology and Experimental Therapeutics

Faculty
Carol L. Beck, PharmD, PhD, Assistant Professor of Pharmacology & Experimental Therapeutics
Inna Chervoneva, PhD, Associate Professor of Pharmacology & Experimental Therapeutics
Constantine Daskalakis, ScD, Associate Professor of Pharmacology & Experimental Therapeutics
Louise Y. Fong, PhD, Associate Professor of Pharmacology & Experimental Therapeutics
Terry Hyslop, PhD, Associate Professor of Pharmacology & Experimental Therapeutics
Walter Kraft, MD, Clinical Associate Professor of Pharmacology & Experimental Therapeutics; Director, Clinical Research Unit
Benjamin E. Leiby, PhD, Associate Professor of Pharmacology & Experimental Therapeutics; Division Head, Biostatistics
Stephanie Schulz, PhD, Research Assistant Professor of Pharmacology & Experimental Therapeutics

Education Coordinator
Joan Faust

Clinical Curriculum

PHARM. 403 Research (Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement

This research elective is focused on independent, hypothesis-driven investigation. Projects could span basic or clinical pharmacology, experimental therapeutics, and drug utilization. Students should contact departmental faculty to discuss potential areas of research before enrolling.

(Approved Advanced Basic Science Rotation.)
Psychiatry and Human Behavior

Chairman
Michael J. Vergare, MD, The Daniel Lieberman Professor of Psychiatry and Human Behavior and Chairman of the Department

Vice Chairs
Mitchell J.M. Cohen, MD, Associate Professor of Psychiatry and Human Behavior and Vice Chair for Education
Elisabeth J. Kunkel, MD, Professor of Psychiatry and Human Behavior and Vice Chair for Clinical Affairs

Education Directors
Madeleine Becker, MD, Assistant Professor of Psychiatry and Human Behavior and Director of Fellowship in Psychosomatic Medicine
Kenneth M. Certa, MD, Associate Professor of Psychiatry and Human Behavior and Director of Adult Residency Training
Mitchell J.M. Cohen, MD, Associate Professor of Psychiatry and Human Behavior, Vice Chair for Education, and Clerkship Director
Karl Doghramji, MD, Professor of Psychiatry and Human Behavior and Director of the Sleep Medicine Fellowship
Abigail Kay, MD, Assistant Professor of Psychiatry and Human Behavior, Assistant Clerkship Director for Curriculum
James Luebbert, MD, Assistant Professor of Psychiatry and Human Behavior and Director of Child and Adolescent Fellowship

Program Directors
Kenneth M. Certa, MD, Associate Professor of Psychiatry and Human Behavior and Director of Adult Outpatient Programs
Mitchell J.M. Cohen, MD, Associate Professor of Psychiatry and Human Behavior and Director of Pain Medicine Program
Karl Doghramji, MD, Professor of Psychiatry and Human Behavior and Director of the Sleep Disorders Center
Abigail Kay, MD, Assistant Professor and Director, Narcotic Addiction Rehabilitation Program
Elisabeth J. Kunkel, MD, Professor of Psychiatry and Human Behavior and Director of Consultation-Liaison Psychiatry
James Luebbert, MD, Assistant Professor of Psychiatry and Human Behavior and Director of Child and Adolescent Outpatient Program

Christopher Milburn, MD, Instructor of Psychiatry and Human Behavior and Director of Acute Psychiatric Services

Rodney Pelchat, MD, Assistant Professor of Psychiatry and Human Behavior and Medical Director, Geriatric Psychiatry Unit (13 Thompson)

Barry W. Rovner, MD, Professor of Psychiatry and Human Behavior and Neurology and Director of Geriatric Psychiatry

Ronald D. Serota, MD, Assistant Professor of Psychiatry and Human Behavior and Director of Intensive Outpatient Program for Addiction Treatment

Robert Sterling, PhD, Research Professor of Psychiatry and Human Behavior and Director of Substance Abuse Programs

**Education Coordinator**
Megan Sweeney

**Clinical Curriculum**

**Phase I**

**PSYHB. 350 Psychiatry Clerkship**
(Drs. Cohen, Kay, Best, and SKMC/Affiliate Faculty)
Credits 7. 1st through 8th Teaching Blocks.

This core clinical experience prepares all physicians to recognize and plan treatment for the most prevalent psychiatric disorders. Students also learn techniques for managing their reactions to disturbing patient symptoms and behavior. In this clerkship students gain experience developing therapeutic relationships with patients and establishing treatment boundaries. Third-year students have the opportunity to evaluate and follow the progress of patients with a variety of psychiatric disorders. Students evaluate and follow patients under faculty supervision, observing and participating in all treatment, rehabilitative, and preventive programs within the clinical setting. The six-week clerkship is divided into two three-week clinical placements to provide breadth of exposure to patients, disorders, clinical teams and treatments. Core clinical skills sessions and didactic seminars are scheduled for a half-day per week and attended by all students. Students learn to differentiate common mental-life problems that present to the general physician and can be treated in that setting from severe disorders that require specialized evaluation and management. Over the course of the clerkship student
training and evaluation focus on increasing competence in the following aspects of clinical psychiatry: 1. Developing appropriate treatment relationships with patients; 2. Working effectively with a clinical team; 3. Demonstrating responsibility and accountability in patient care; 4. Growth in reasoning skills required in comprehensive case formulation; 5. Application of the general psychiatric knowledge base; and, 6. Mastery of clinical skills, especially ability to obtain a psychiatric history and conduct a comprehensive mental status examination. 7. Competence in treatment planning, including integration of psychiatric medications, behavioral and supportive psychotherapies, and practical problem-solving to improve patient quality of life.

**Location:**

01 Thomas Jefferson University Hospital  
Dr. Cohen and Jefferson Faculty

03 Bryn Mawr Hospital  
Dr. Burock and Affiliate Faculty

22 Christiana Care Health System  
Dr. Lang and Affiliate Faculty

38 Albert Einstein Medical Center  
Drs. Best and Mathur

41 Belmont Behavioral Health Network of AEMC  
Drs. Best and Richardson and Affiliate Faculty

**PSYHB. 351 Final Written USMLE Psychiatry Subject Exam**  
Credits 2. 1st through 8th Teaching Blocks.

**Phase II**

(Students should make contact at least two weeks prior to beginning each rotation) Contact information is available through Megan Sweeney, Education Coordinator: (215) 955-9823)

**PSYHB.401-01 Adult Inpatient Psychiatry at Jefferson**  
(Dr. Certa and Faculty)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: By arrangement.

The student is assigned to an adult inpatient unit to function as a sub-intern in this setting. The assignment is a continuation of the inpatient work of the junior clerkship, but at a higher level of responsibility. 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 sub-intern will be afforded the opportunity to function as a house officer and will have primary responsibility for his or her patients. The unit embraces the entire bio-
psychosocial model as well as the multidisciplinary treatment team approach. Student 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 evaluated 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, carrying out basic treatment planning.

**PSYHB. 401-38 Adult Inpatient Psychiatry at Albert Einstein Medical Center** (Dr. Best and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

The goal is to learn skills in diagnostic interviewing, diagnostic psychiatry, and to develop a basic knowledge of psychopharmacology, short-term psychotherapy, mental health law, consultation and liaison with other specialties. The senior student functions at the first-year resident level with considerable responsibility for a few patients under his/her direct care. The senior student is an integral part of a multidisciplinary team and participates in team meetings and case conferences. Learning Resources include daily on-site supervision and comprehensive medical psychiatric library, case conferences and Grand Rounds. The student is evaluated by faculty and other treatment team members through direct observation of interactions with patients and competence utilizing basic knowledge and patient history in formulating diagnosis and planning treatment.

**PSYHB. 401-41 Adult Inpatient Psychiatry at Belmont Behavioral Health Network**
(Dr. Best and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

The goal is to learn skills in diagnostic interviewing, diagnostic psychiatry, and to develop a basic knowledge of psychopharmacology, short-term psychotherapy, mental health law, consultation and liaison with other specialties. The senior student functions at the first-year resident level with considerable responsibility for a few patients under his/her direct care. The senior student is an integral part of a multidisciplinary team and participates in team meetings and case conferences. Learning Resources include daily on-site supervision and comprehensive medical psychiatric library, case conferences and Grand Rounds. The student is evaluated by faculty and other treatment team members through direct observation of interactions with patients and competence utilizing
basic knowledge and patient history in formulating diagnosis and planning treatment.

**PSYHB. 403 Special Interest Elective in Psychiatry**
(Faculty by arrangement)

Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This course number is used to accommodate any special interest or clinical exposure not covered by other numbers. It may be elected only with the permission of the Education Coordinator after presentation of a brief written description from involved Thomas Jefferson University or non-Jefferson faculty. To be considered, all Thomas Jefferson University and non-Jefferson special interest electives require a prepared statement of goals, objectives, and description of the educational experience as well as a letter of support from a supervising faculty member.

**PSYHB. 405-01 Outpatient Subinternship in Sleep Disorders Medicine at Jefferson**
(Drs. Doghramji and Markov)

Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Maximum 1 student per block.

This is one of two outpatient subinternships that meet the senior student’s ambulatory requirement (see also PSYHB 408). 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 an outpatient clinic and a sleep laboratory. 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 most of the time, and, to a lesser degree, house staff including residents in psychiatry, fellows in pulmonary and critical care medicine, and fellows in sleep medicine. Students observe polysomnographic studies and become familiar with sleep monitoring and scoring techniques. They are involved in performing consultations for inpatients. 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 housestaff as well as assessment of sophistication of chart entries and competence presenting patient information and assigned projects.
This sub-internship is designed to help the fourth year medical student develop the advanced skills needed to be a competent intern. The skills developed during this rotation will be equally relevant to students planning to pursue psychiatry residency and students planning careers other specialties. This rotation is primarily based at the outpatient addictions clinic, but the training focus includes substance use disorders and the broad range of ambulatory psychiatric disorders affecting this population, including mood, anxiety, and personality disorders.

During this rotation students develop their skills in the following areas: interviewing a patient and presenting a comprehensive history and mental status exam, developing a differential diagnosis, and planning treatment. In recognition of the ubiquitous nature of substance use disorders, students will be expected to develop an understanding of the signs and symptoms of intoxication and withdrawal from various substances of abuse and the full spectrum available pharmacologic, behavioral, and psychotherapeutic treatment options. In addition the sub-intern student will be expected to act as a “supervisor” to the third-year medical students who are rotating on the service. This experience will help prepare the subintern to assume the teaching responsibilities of a first-year intern. This rotation provides the unique opportunity for students to gain experience in the management of outpatients in a psychiatric clinic. Students are encouraged to follow patients, as frequently as once a week, throughout their rotation. Students will also have the opportunity to observe senior attending physicians’ with different subspecialty expertise (e.g. psychoanalysis, psychopharmacology, mood disorders) evaluate new patients. Students will also participate in case conferences in the general adult outpatient service.

Students learn components of child/adolescent psychiatric diagnostic evaluation in the crisis setting. Medical students gain an appreciation of the educational, juvenile justice and social service systems that impact on children and adolescents and how they provide important assessment information and are utilized in treatment planning and disposition. Students gain exposure to a range of child psychopathology and become
acquainted with DSM-V. Students learn the importance and process of evaluating the child and home environment for safety. Medical students observe and then participate in the evaluation of children and adolescents presenting to the Crisis Response Center (CRC). Students work with Child and Adolescent Psychiatry fellows and attending physicians. An Attending Psychiatrist supervises all cases seen in the CRC. Medical students write up all cases they are involved with and present cases to housestaff and faculty. Students are given readings on the clinical interview and mental status examination for children and adolescents. They also are provided with a list of literature references. Methods of evaluation include observation, case presentation, and documentation in the medical record.

**PSYHB. 431-01 Consultation and Liaison Psychiatry at Jefferson**
(Drs. Becker, Kunkel and Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

During this elective 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. He or she 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 Thomas Jefferson University Hospital, 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.

**PSYHB. 431-38 Consultation-Liaison Psychiatry at AEMC**
(Dr. Best and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

The student develops skills in evaluating and treating general hospital (medical, surgical, obstetrical, etc.) patients who develop psychiatric problems. The student also develops supportive skills with patients with chronic illness. The medical student becomes part of the Consultation Service at a sub-intern level. He or she evaluates patients on whom consultation was requested, and follows these patients as necessary. The student may become involved with dialysis patients or surgical transplant patients as part of the liaison work the Psychiatry Department performs in these special programs.
Supervision is offered by attendings and the resident assigned to the service. Readings are selected based on the special interests of the student and clinical problems seen during the rotation. Grand Rounds are offered weekly. The student is evaluated by the residents and attendings based on performance on rounds and during supervision. Immediate feedback is given on a daily basis.

**PSYHB. 436-41 Child and Adolescent Inpatient Psychiatry at Belmont** (Drs. Best, El-Gabalawi and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

Medical students gain experience in the diagnostic and evaluation process of adolescent psychiatric disorders. Students learn basic dynamics of family therapy. Students learn and apply the major paradigms for normal adolescent development. Medical students become an integral part of the treatment team and gain experience in the comprehensive treatment approach used on the Adolescent Psychiatry Unit. Students are assigned two patients to follow throughout the rotation and become experienced in the family approach to treatment of adolescents with psychiatric disorders. Students are assigned readings on normal adolescent development and adolescent disorders. Students participate in all case conferences and family therapy conferences. Students meet with their individual supervisor weekly to review their cases. Students are evaluated via observation, by participation in supervision, by the treatment team regarding their function on the team, and by assessment of their documentation in the medical record.

**PSYHB. 437-41 Co-Occurring Disorders Unit at Belmont**
(Dr. Richardson and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

Students learn various regimens of detoxification. Students are familiarized with the 12-step recovery model. Students become familiar with the dual diagnosis program. Students learn about the method and theories of Addiction Psychiatry. Students learn the assessment and treatment of patients with co-occurring substance and psychiatric disorders. They have the opportunity to follow several patients in a “team” model with the attending, nursing staff, counselors and social workers. They are exposed to detoxification and 12-step recovery models of addiction treatment. Appropriate reading is assigned. Students participate in treatment team meetings and all case conferences and are supervised by the attending physician. Students are evaluated via observation, by participation in supervision and by documentation in medical record.
PSYHB. 438-38 Emergency Psychiatry at AEMC
(Dr. Best and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

This four-week elective rotation is designed to introduce the student to the basics of emergency psychiatric medicine. Teaching emphasizes the following clinical areas: evaluating the individual patient; managing acute psychosis; the use of psychotropic medication; crisis intervention and interviewing skills; medical illness presenting as a psychiatric emergency; evaluating the dangerous patient; disposition and follow-up. Learning resources include regularly scheduled lectures, supervised clinical management, and exposure to a broad variety of psychopathology. Methods of evaluation include clinical observation and regularly scheduled supervision.

PSYHB. 439-38 Geriatric Psychiatry
(Drs. Best, Zisselman and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

The objectives and goals of this course include developing competence in the knowledge, attitudes and skills necessary to diagnose and treat the psychiatric disorders of the geriatric population. Training takes place in a comprehensive setting which includes a general and a private psychiatric hospital with inpatient, outpatient, day programs, nursing homes, and life-care communities. Supervised patient care, interdepartmental conferences with general internal medicine and its sub-specialties, neurology, and psychology, and advanced training in neurology are included. Students learn fundamental skills and knowledge base of geriatric psychiatry, the use of psychiatric medications in the geriatric population, and special attention to the management of patients with depression and dementia. Learning resources include the Geriatric Psychiatry Fellowship staff and fellows, who provide intensive clinical supervision, case conferences, a neurology series including a review of MRI, CAT and SPECT data as well as EEG interpretation, and a Grand Rounds series. Methods of evaluating student are direct observation of student’s performance with patients and families, assessment of performance during seminars and sophistication of chart entries, and function as team members. Faculty, housestaff, and treatment team members provide input on all these aspects of performance.
PSYHB. 445-41 Eating Disorders Unit at Belmont
(Drs. Best, Itskov and Affiliate Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement. Visa application also required.

Medical students learn the differential diagnosis of eating disorders and become familiar with various appropriate levels of care and treatment options for patients with eating disorders. Medical students learn the importance of, and systematic approach to diagnosis of co-morbid psychiatric disorders. Medical students learn the importance of working as a member of a team in treating severely impaired patients. Medical students become familiar with the assessment and treatment of patients with eating disorders, and as time allows, other psychiatric disorders. The student has the opportunity to follow several patients in a “team” model with the attending physician, psychologist, nursing staff, social workers, individual therapists, and group therapists. Appropriate reading material will be assigned. Medical students attend and participate in Morning Rounds, Treatment Teams, Case Conferences, and “Lunch n’ Lecture.” Students are encouraged to observe family therapy sessions where appropriate. Methods of evaluating students include direct observation of the medical student’s performance with patients, interactions with staff, and student entries in the medical record. Ability of the student to synthesize core knowledge in formulating a differential diagnosis and initial treatment plan will be assessed.

PSYHB. 491 Clinical Research in Psychiatry
(Departmental Faculty)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

Students work on ongoing or new clinical research projects with a faculty mentor in the Department. Students pursue a short-term independent research project or participate in ongoing research, based on student interests and availability of faculty mentors. Emphasis is placed on the development of basic skills in research methodology. Faculty mentors provide individual supervision. Research projects are normally clinically oriented; however, collaborative projects with other clinical and/or basic science departments are possible. Students who wish to elect this program must work out arrangements in advance with a sponsoring faculty member and obtain written approval from the sponsor and from the Vice Chair for Education. If a student knows of a faculty member’s research interests, this knowledge provides a good starting point for developing a plan. A student who is not familiar with active departmental research and faculty expertise should visit the Education Coordinator to obtain current information about faculty members, their scholarly interests, and ongoing research projects.
Radiation Oncology

Chairman
Mark Hurwitz, MD, Vice Chair of Quality & Safety, Medical Clerkship
Director Department of Radiation Oncology

Division Directors
Bo Lu, MD, PhD, Professor and Director, Division of Molecular
Radiation Biology
Yan Yu, PhD, MBA, Professor and Vice Chair, Division of Medical
Physics

Course Director
Voichita Bar-Ad, MD, Clinical Associate Professor, Radiation Oncology

Education Coordinator
Melanie Elliott

Clinical Curriculum

RONM. 401 Clinical Clerkship in Radiation Oncology (Dr. Bo Lu and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.

This four week rotation will introduce medical students to clinical ra-
diation oncology. Students will learn the staging, work-up, management
and outcomes of common malignancies. Students will participate in
new patient evaluations, on treatment visits, follow-ups, and multi-di-
sciplinary tumor board discussions. Typically, students will work with
most of the Attendings in the Department during this four-week rota-
tion. Fourth year students should send a copy of their CV to the
Department’s Course Coordinator (Melanie.x.elliott@jefferson.edu)
and advise which four week block they will be registering for. We ac-
cept one fourth year student for each block.

Fourth Year Students interested in an away rotation are asked to ad-
vise the Course Coordinator where the rotation will take place and the
contact person in order to obtain the student’s grade for their away
rotation.

RONM. 403 Radiation Oncology Research (Dr. Bo Lu and staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement.
Students must have a project approved by a member of the faculty of the Department of Radiation Oncology prior to registering for this rotation. Interested Students should contact the Course Coordinator to arrange an appointment with their supervising faculty member.

**RONM. 431  Radiobiology of Cancer**  
(Dr. Leeper and Staff)

Credits 6.  10th through 21st Teaching Blocks.
Enrollment: By arrangement.

Students must contact Dr. Bo Lu in the Department of Radiation Oncology in advance of registering for this course to discuss the project they will be working on during this rotation.

Third Year Students: The goal of this selective is to introduce students to multidisciplinary cancer care in general, with emphasis on radiation oncology. During your time in our department, you will work with resident and attending physicians during outpatient clinic hours and on inpatient consultations. On the first day of your rotation, you will have a brief orientation and will then observe the core aspects of radiation therapy planning and delivery: simulation, dosimetry, and treatment delivery. Your schedule will include departmental meetings and tumor boards that you will be expected to attend as part of the educational experience. At the end of your rotation, each student will be required to deliver a focused 10 minute case-based or didactic presentation on a topic within oncology. A resident or faculty mentor is designated to help guide the development of the presentation. Students are asked to provide anonymous feedback regarding the course, and receive feedback from the course director. Additionally, all students who take this selective are required to take a pre-test and a post-test which evaluates the curriculum and in no way influences your grade.
Radiology

Chair
Vijay M. Rao, MD, David C. Levin Professor of Radiology and Chair of the Department

Vice Chairs
Adam Flanders, MD, Professor of Radiology and Vice Chair for Informatics

Ethan Halpern, MD, Professor of Radiology and Vice Chair for Research

Levon Nazarian, MD, Professor of Radiology and Vice Chair for Education

Christopher Roth, MD, Associate Professor of Radiology, Vice Chair for Methodist Radiology and Vice Chair for Quality & Performance

Adam Zoga, MD, Associate Professor of Radiology and Vice Chair for Clinical Practice

Directors
Oksana Baltarowich, MD, Associate Professor of Radiology, Director of Medical Student Education, and Preceptor of Medical Student Course in Diagnostic Radiology

Sandeep Deshmukh, MD, Clinical Assistant Professor of Radiology and Associate Director, Body CT

David Eschelman, MD, Associate Professor of Radiology and Co-Director of Interventional Radiology

Rick I. Feld, MD, Professor of Radiology and Preceptor of Medical Student Course in Cross-Sectional Imaging

Adam Flanders, MD, Professor of Radiology and Co-Director of Neuroradiology/ENT Radiology

David P. Friedman, MD, Associate Professor of Radiology, Co-Director of Neuroradiology/ENT Radiology, and Preceptor of Medical Student Course in Neuroradiology/ENT

Carin Gonsalves, MD, Associate Professor of Radiology and Co-Director of Interventional Radiology

Elizabeth Hsu, MD, Clinical Assistant Professor of Radiology and Director of Breast Imaging
Charles M. Intenzo, MD, Professor of Radiology and Director of Nuclear Medicine

Suzanne S. Long, MD, Clinical Assistant Professor of Radiology and Residency Program Director

Donald Mitchell, MD, Professor of Radiology and Director of MRI

William Morrison, MD, Professor of Radiology and Director of Musculoskeletal and General Radiology

Levon Nazarian, MD, Professor of Radiology, Chair of Radiology Education Committee

Laurence Needleman, MD, Associate Professor of Radiology and Director of Ultrasound, Body CT, and Abdominal Imaging

Paul Read, MD, Clinical Assistant Professor of Radiology and Preceptor of Medical Student Course in Musculoskeletal Radiology

Susan Shamimi-Noori, MD, Assistant Professor of Radiology, Preceptor of Medical Student Course in Interventional Radiology

**Education Coordinator**
Pamela Coyle

**Clinical Curriculum**

**RAD. 401 Diagnostic Radiology** (Dr. Baltarowich)
Credits 6. 10th through 20th Teaching Blocks.

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 midterm quiz and a final examination, both of which include image interpretation. The final grade is based on test scores, assignments, and class participation.
Location:

01 Thomas Jefferson University Hospital
   (Min. 10, Max. 30: Blocks 10, 14, 16); (Min. 10, Max. 45: Blocks 12, 17, 19)
03 Bryn Mawr Hospital
   1 student
07 Lankenau Hospital
   1 student
38 Albert Einstein Medical Center
   4 students (Blocks 12-20 only)

RAD. 403 Neuroradiology (Dr. Friedman)
   Credits 6. 11th through 20th Teaching Blocks.
   Enrollment: Maximum 1.

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.

RAD. 406 Cross Sectional Imaging (Ultrasound, Computed Tomography, and Magnetic Resonance Imaging) (Dr. Feld)
   Credits 6. 10th through 20th Teaching Blocks.
   Enrollment: Maximum 2.

Each medical student rotates for an interval of two weeks in ultrasound, one week in CT, and one week in MRI. The students participate in the ongoing daily morning conferences and combined US/CT/MRI conference from 8:00 to 8:30 a.m., which is held three times a week. Use also is made of the extensive videotape library on cross sectional imaging. Selected videotapes are assembled, and a special viewing carrel is set aside for student use. In addition, the students rotate within the various areas of CT and MRI. During this time, the students observe many different procedures being performed by the technologist and review cases with the physicians. Medical students going through this rotation are expected to come away with a basic understanding of the usefulness of ultrasound, computed tomography, and MRI and acknowledge of how these procedures are performed. Radiology 401 is a prerequisite course.
RAD. 407  Interventional Radiology  
(Dr. Shamimi-Noori)  
Credits 6.  10th through 21st Teaching Blocks.  
Enrollment: Maximum 2.  
The fourth year elective 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 month, 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. During the rotation, students are expected to give two short case presentations on patients with disease topics of interest. By the end of the month, students will have a better understanding of both the diagnostic and therapeutic capabilities of the Interventional Radiology division.  

RAD. 408  Musculoskeletal Radiology  
(Dr. Read)  
Credits 6.  10th through 20th Teaching Blocks.  
Enrollment: Maximum 2  
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 elective.  

RAD. 425  Research Elective  
(Dr. Halpern)  
Credits 6.  All Teaching Blocks.  
Enrollment: Maximum 2  
This elective rotation 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 listed above. For this approval, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective. Evaluation for this course will be given by the faculty mentor.
RAD. 352 Interventional Radiology (Dr. Shamimi-Noori)

The selective 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 month, 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 rotation, each student will give a short case presentation on one patient with a disease topic of interest. By the end of the month, students will have a better understanding of both the diagnostic and therapeutic capabilities of the Interventional Radiology division.

Location:
01 Thomas Jefferson University Hospital  
Maximum 2 students per block
Rehabilitation Medicine

Chairman
John L. Melvin, MD, MMSc, The Jessie B. Michie Professor of Rehabilitation Medicine and Chairman of the Department

Directors
Nethra Ankam, MD, Assistant Professor of Rehabilitation Medicine and Director of Undergraduate Medical Education

Assistant to the Chairman
Carol Abbott

Education Coordinator
Patricia Ann Williams

Clinical Curriculum

REHAB. 352 Selective in Rehabilitation Medicine (Dr. Ankam)
Offered the last 3 weeks of odd numbered blocks and the first 3 weeks of even numbered blocks only. (1B, 2A, 3B, 4A, 5B, 6A, 7B, 8A)

As the prevalence of disability in the United States rises as both the baby boomer generation ages, and modern medical advancements keep more individuals with disability alive, principles of rehabilitation become more relevant to every medical and surgical specialty. Disability and health are a continuum, and every person falls along this spectrum. The purpose of this selective is to provide students with exposure to physical medicine and rehabilitation in various settings in order to facilitate understanding of the continuum of rehabilitative care. At the end of the rotation, students should begin to explain how a person’s disease process and functional abilities intersect with their environment, societal roles, and societal norms to affect quality of life. There are two options. One option is adult rehabilitation, where there are five sites to choose from. At Magee or Reading, students will be working on inpatient and outpatient specialty services including spinal cord injury, stroke or traumatic brain injury services. At Bryn Mawr, students will have the opportunity to work closely with an attending who specializes in spasticity management, and have an opportunity to learn this skill in depth. This high volume outpatient office at Bryn Mawr will allow students to see multiple neurologic rehabilitation diagnoses at various stages of the rehabilitation process. At Thomas Jefferson University Hospital and Moss, students will have the opportunity to rotate on the general inpatient rehabilitation unit, where they will see a wide
variety of pathology including neurologic, medical and orthopedic rehabilitation diagnoses. Both Magee and Jefferson sites will have the opportunity to spend time in the physiatric outpatient offices of the Rothman Institute. The other option will be a pediatric rehabilitation option based out of A. I. duPont Hospital for Children, where students will have the opportunity to rotate in acute inpatient rehabilitation unit, outpatient day rehabilitation hospital and consultation services, along with outpatient clinic settings to see a wide variety of pediatric patients with congenital and acquired disability. With both options, students will be able to closely work with both attending and resident physicians, along with other members of the rehabilitation team.

Goal 1: Gain experience and competency in development of a rehabilitation problem list that can include medical, functional, social, and vocational problems. This goal will be accomplished through rounding on inpatient services, seeing patients in consultation, and working up patients in outpatient clinic. There will also be formal didactics, and competency will be assessed via a rehabilitation problem list and plan that the students will present to the course director and their peers on the last didactic day of the rotation.

Goal 2: Gain experience and competency in neuro-musculoskeletal examination and interpretation, especially as it pertains to diagnosis and function. This goal will be accomplished through rounding on inpatient services, seeing patients in consultation, and working up patients in outpatient clinic.

Objectives: At the end of the selective, the student should be able to:

1. Take a complete functional history, perform a thorough neuromusculoskeletal examination, and develop a complete rehabilitation problem list and plan of action.

2. Conduct an appropriate interview and examination of a patient with disability.

3. Develop an understanding of assistive devices, modalities, adaptive equipment, and therapies, which includes the indications, contraindications, and role of each.

4. Describe the levels of Rehabilitative Care.

5. Explain the natural history of some common rehabilitation complaints including evaluation, prognosis, treatment and preventable sequelae; including, for example, low back pain, stroke, spinal cord injury, traumatic brain injury, cerebral palsy, spina bifida.

6. Localize a peripheral nervous system lesion to root or peripheral nerve.
IDPT. 401  Interdepartmental Outpatient Sub-Internship in Musculoskeletal Medicine

(Dr. Ankam)

Fourth-year students. Must have transportation.
5 days per week for 4 weeks.
Credits 6. All teaching blocks except 18 and 21.
Enrollment: Maximum 5 per teaching block.

This interdepartmental musculoskeletal outpatient subinternship 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 on each day of the week for 4 weeks, to allow for continuity with faculty, increased responsibility and skill building.

Goals
1. Students will refine and enhance their skills in musculoskeletal medicine from 4 different perspectives: the orthopedic surgeon, physiatrist, podiatrist, and sports medicine specialists.

2. Students will develop a repertoire of management plans for common musculoskeletal conditions that include prevention, evaluation (including physical examination and interpretation of imaging,) and rehabilitation of sports and musculoskeletal injuries. The (initial and chronic) conditions managed may include but are not limited to:

Shoulder injuries: i.e., rotator cuff tears, impingement syndrome.
Knee injuries: menisci injuries, patellofemoral syndrome, etc.
Elbow injuries: lateral/medial epicondylitis, bursitis, etc.
Wrist/hand injuries: carpal tunnel syndrome, tendonitis, etc.
Lumbar spine injuries: herniated disc, myofascial pain, etc.
Cervical spine injuries: herniated disc, myofascial pain, etc.
Ankle injuries: sprains, plantar fasciitis, etc.
Hip injuries: runners’ injuries, osteoarthritis, etc.

3. Understand the spectrum of care for musculoskeletal conditions, including the interplay/interaction between sports medicine, rehabilitation, and surgical services.

4. Provide first hand, direct patient care with orthopedic surgery, physiatric, podiatric, and sports medicine faculty supervision. Students will perform focused history and physical examination, and learn techniques and considerations for patients in pain.

This objective will be achieved in the outpatient offices of orthopedic surgeons, physiatrists, podiatrist, and sports medicine specialists.

5. Assist in the diagnosis and management of common sports and musculoskeletal problems in an outpatient setting including: ordering appropriate tests with regards to cost and insurance coverage; understanding the relevant anatomy; understanding the role of operative and non-operative management (including medications, injections, lifestyle changes, physical therapy.) This objective will be achieved in the outpatient offices of orthopedic surgeons, physiatrists, podiatrist, and sports medicine specialists.

6. Learn to perform joint injections, which include understanding the relevant anatomy, indications, and contraindications. Students will learn to correctly obtain informed consent for such procedures. This objective will be achieved in the outpatient offices of orthopedic surgeons, podiatrists, and sports medicine specialists.

Students will interview and examine all new and follow-up patients first as the schedule allows, and then present their findings, assessment and plan to the attending provider. In addition, students should view imaging first as able, and present their findings to the attending provider.

**REHAB. 401 Clinical Clerkship in Rehabilitation Medicine**

(Staff)

By departmental arrangement only
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Maximum 2 for block 10 and 11; Maximum 4 per Teaching Block for block 12-21

This is a full-time practical experience in evaluation, diagnosis, and management of people with physical disability, including those with complicated medical problems. The goal of this rotation is enable those who complete the elective to describe the scope of the practice of Physical Medicine and Rehabilitation (PMR) through providing a wide exposure to PMR. Coequal is the goal of full utilization of all the health
team members needed to accomplish the functional goals of the patient. In addition, the medical student will learn to effectively interact with people with severe disability in a hope-engendering manner and understand the wide ranging effects of life altering functional disability. 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.

The rotation is structured as follows:
Two weeks at Magee Rehabilitation Hospital under the direction of Dr. Christopher Formal. While at Magee, students have the ability to rotate on two inpatient services (usually a combination of spinal cord injury, stroke or traumatic brain injury,) and see outpatients.

Two weeks at Thomas Jefferson University Hospital, with one week of inpatient rehabilitation on our comprehensive acute rehabilitation unit, where students see a mix of patients with diagnoses requiring medically complex rehabilitation, including those with strokes, amputations, spinal cord injuries and cancer. The second week is spent in the outpatient clinics. The students spend one day in outpatient physical, occupational, and speech therapists to allow students to see examples of the therapies they may have seen prescribed.

If a student has already taken Rehab. 352, please contact the department to customize the rotation for you to avoid repetitive experiences.

REHAB. 425  Research Elective in Rehabilitation Medicine
10th through 21st teaching blocks
By departmental arrangement only
Surgery

Chairman
Charles J. Yeo, MD, Samuel D. Gross Professor of Surgery and Chairman of the Department

Vice Chairman for Clinical Affairs
Jonathan Brody, PhD, Associate Professor, The J. Wallace and Gail G. Davis Professorship in Surgery and Vice Chair for Surgical Research

Ernest Rosato, MD, Francis E. Rosato Professor of Surgery and Vice Chairman for Clinical Affairs, Department of Surgery

Karen Chojnacki, MD, Associate Professor of Surgery and Vice Chair for Education and Director, Graduate Medical Education

Scott Cowan, MD, Associate Professor of Surgery and Vice Chairman for Quality

Francesco Palazzo, MD, Assistant Professor of Surgery, Vice Chairman for Methodist Hospital and Associate Program Director for Graduate Medical Education

Adam Berger, MD, Professor of Surgery and Deputy Vice Chair for Clinical Research

Division Directors
Paul DiMuzio, MD, Associate Professor of Surgery and the William M. Measey Professor of Surgery and Director of the Division of Vascular Surgery, Jefferson Vascular Center

Geno J. Merli, MD, Professor of Medicine and Surgery and Director of the Division of Vascular Medicine, Jefferson Vascular Center

Murray J. Cohen, MD, Associate Professor of Surgery and Director of the Division of Trauma

James T. Diehl, MD, Professor of Surgery and Director of the Division of Cardiothoracic Surgery

Scott D. Goldstein, MD, The Gerald J. Marks Professor of Colorectal Surgery and Director of the Division of Colon and Rectal Surgery

Cataldo Doria, MD, The Nicoletti Family Professorship of Transplantation Surgery and Director of the Division of Transplant Surgery
Ernest L. Rosato, MD, Francis E. Rosato Professor of Surgery, Director of the Division of General Surgery

Gerald Isenberg, MD, Professor of Surgery and Director of Undergraduate Medical Education

Steven Copit, MD, Professor of Surgery and Director of the Division of Plastic Surgery

David Tichansky, MD, Professor of Surgery and Director of the Division of Minimally Invasive, Metabolic and Bariatric Surgery

Theodore Tsangaris, MD, Professor of Surgery and Director of the Division of Breast Surgery

Stephen Dunn, MD, Professor of Surgery and Director of the Division of Pediatric Surgery

Section Heads
Nicholas Cavarocchi, MD, Professor of Surgery and Section Head, SCCU

Nathaniel Evans, MD, Associate Professor of Surgery and Section Head, Thoracic Surgery

Harish Lavu, MD, Associate Professor of Surgery and Section Head of HPB Surgery

Michael Pucci, MD, Assistant Professor of Surgery and Associate Program Director for Undergraduate Education

Education Coordinators
Donna Guinto, Coordinator for Graduate Education for the Department of Surgery

Sherry Weitz, Coordinator for Undergraduate Education for the Department of Surgery

Clinical Curriculum

SURG. 350  Surgery Clinical Clerkship  (Dr. Isenberg and Faculty)

12 week rotation with includes six weeks of General Surgery, three weeks of one Surgery Specialty and three weeks of a second Surgery Specialty (Anesthesiology, Neurosurgery, Ophthalmology, Orthopedic Surgery, Otolaryngology, and Urology) or non-surgical specialty (Rehab Medicine, Radiation Oncology, Geriatrics, Dermatology)
For a full description, please see the Educational Program section of this catalog.

**SURG. 351** Final Written Examination in Surgery  
Credits 2.

**SURG. 425** Research  
Credits 6. All Teaching Blocks.  
Enrollment: by arrangement.

**SURG. 450** Clinical Clerkship (Subinternship)  
(Dr. Isenberg and Faculty)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

Arrangements are made to enroll in the clerkship at one of the participating institutions through the Department of Surgery. Students must have this clerkship approved by their adviser. During the clerkship, students participate in preoperative and postoperative care of surgical patients, as well as participating in the operative procedures themselves. The 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. Night and weekend call is required every fourth night and is arranged with the coordinator.

**Location:**
- 01 Thomas Jefferson University Hospital  
- 03 Bryn Mawr Hospital  
  - Dr. Myrick: By Arrangement  
  - Dr. Isenberg: By arrangement  
- 07 Lankenau Hospital  
  - Dr. Siripurapu: By arrangement  
- 38 Albert Einstein Medical Center  
  - Dr. Somers: By arrangement  
- 10 Methodist Hospital  
  - Dr. Palazzo: By arrangement  
- 15 Christiana Care Health Services–Christiana Hospital  
  - Dr. Rubino: By arrangement  
- 28 The duPont Hospital for Children  
  - Dr. Katz: By arrangement
SURT. 452  Clinical Clerkship (General Surgery Elective)  
(Dr. Isenberg and Faculty)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

Arrangements for this clerkship are made through the Department of Surgery and with the approval of the student’s adviser. Description of this clerkship is as for SURT. 450 except, as an elective, students are responsible to their chosen attending(s). Night and weekend calls are to be arranged between the student and attending(s). Locations are as for SURT. 450 for Thomas Jefferson University affiliates. For nonaffiliates, the location suffix -99 should be used. See the Department of Surgery for approval of -99 locations.

SURT. 453  Thoracic and Cardiovascular Surgery  
(Drs. Diehl, Entwistle, Evans, Cowan, and Cavarocchi)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

The student participates as an integral part of the thoracic and cardiac surgical team at the level of subintern. The student is responsible for the pre- and postoperative evaluation and care of the thoracic and cardiac surgical patients and also actively participates in the operation. The student has the responsibility of working closely.

Location:  
01 Thomas Jefferson University Hospital  
Drs. Diehl and Entwistle (Cardiac) Drs. Evans and Cowan  
(Thoracic)—Dr. Cavarocchi (CCU)  
Maximum 1

SURT. 454  Experience in Clinical Transplantation  
(Drs. Doria, Rameriz, Frank, Maley, Shah)  
Credits 6. 10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

The student participates as a member of the surgical transplantation team in a program of clinical renal, pancreatic and hepatic transplantation at Thomas Jefferson University Hospital. 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.
SURG. 455  Plastic Surgery Clerkship  
(Drs. Copit, Fox, Greaney, & Ehrlich)  
Credits 6.  10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

This clerkship provides exposure to the principles of plastic surgery, including emphasis on the factors influencing wound healing. The student is expected to participate in patient care, including preoperative evaluation, operative management, and postoperative care. Concentrated clinical exposure includes patients undergoing elective cosmetic and reconstructive procedures as well as those with emergency problems.

Location:
01 Thomas Jefferson University Hospital  
Drs. Copit, Fox, Greaney, and Ehrlich  
Maximum 2 by arrangement

SURG. 458  Diseases of the Breast  
(Drs. Tsangaris and Lazar)  
Credits 6.  10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

This clerkship is conducted as a preceptorship, allowing the student an experience in inpatient and outpatient care of problems related to the breast. It provides an opportunity to gain an understanding of the clinical anatomy and physiology of the breast and the diagnosis and pathophysiology of the common disorders that affect the breast, as well as their treatment. Operative experience and the surgical management of benign and malignant lesions of the breast are stressed. Exposure to ancillary techniques of diagnosis, such as mammography and ultrasound, is provided. Each student will be offered an opportunity, depending on his or her interests, to initiate a clinical research project that may be continued following the conclusion of the clerkship.

SURG. 459  Colon and Rectal Surgery  
(Drs. Goldstein, Isenberg and Phillips)  
Credits 6.  10th through 21st Teaching Blocks.  
Enrollment: Prior arrangement with coordinator necessary

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: e.g., carcinoma of the colon and rectum, radiation enteritis, ulcerative colitis, regional enteritis, and prolapse. The office-based portion of this elective 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.
Location:
01 Thomas Jefferson University Hospital
Drs. Goldstein, Isenberg, and Phillips
Maximum 2 by arrangement

SURG. 460   Clinical Research in Breast Diseases
(Drs. Tsangaris and Lazar)
Credits 6. All Teaching Blocks.
Enrollment: Maximum 1 by arrangement

To gain an appreciation for the relationship of basic and clinical research to direct patient care, this elective permits the student to initiate independent investigation or participate in ongoing clinical research programs in breast disease. Principal areas of study currently include techniques for the early detection of breast cancer, alternative therapies, the use of induction chemotherapy to enhance long-term survival in patients with locally advanced breast cancer, and the treatment of noninvasive cancer by excision and surveillance. Other projects related to clinical breast disease may be initiated, depending on student interest. Students who choose this elective would find it helpful to be computer literate (PC preferable) with experience in word processing, database management, and/or spreadsheet programs.

SURG. 475   Pediatric Surgery
(Dr. Katz)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Prior arrangement with coordinator necessary

The goal of this rotation 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 Thomas Jefferson University pediatrics resident, and, at times, junior surgical residents from Christiana Care Health Services and 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. The rotation is ideal for students who are interested in surgery and desire further exposure to diseases in children, for those interested in pediatrics, and even those interested in obstetrics/gynecology.
Location:
28 The A.I. duPont Hospital for Children
By arrangement

SURG. 480 Trauma/Surgical Critical Care Clerkship
(Drs. Cohen, Weinstein, Kaulback, Lindenbaum, Patel, Jenoff, Koenig, Beekley, Rosen, and Rittenhouse)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Prior arrangement with coordinator necessary

Clinical clerks 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. Night and weekend calls are arranged between student and resident.

Maximum 2

SURG. 485 Surgical Intensive Care (Dr. Cohen)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Prior arrangement with coordinator necessary

Clinical clerks are active in the care of all surgical critical care patients in the SICU. Total patient critical care management will be emphasized. Lectures by senior residents/attendings are offered. Night and weekend calls arranged between student and intern.

Location:
01 Thomas Jefferson University Hospital
Dr. Cohen
Maximum 2 by arrangement
15 Christiana Care Health Services—Christiana Hospital
Maximum 1 by arrangement
38 Albert Einstein Medical Center
Dr. Somers
Maximum 1 by arrangement

SURG. 490 Peripheral Vascular Surgery (Dr. DiMuzio)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: Prior arrangement with coordinator necessary

This course is designed to provide an in-depth exposure to the evaluation and management of peripheral vascular disease. During the rotation, 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 post-operative 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 house staff.

Location:

01 Thomas Jefferson University Hospital
Drs. DiMuzio, Eisenberg, Salvatore and Abai
Maximum 2 by arrangement
Urology

Chairman
Leonard G. Gomella, MD, The Bernard W. Godwin, Jr. Professor of Urology and Chairman of the Department

Vice Chairs
Patrick J. Shenot, MD, Associate Professor of Urology and Deputy Chair
Perry R. Weiner, DO, Clinical Associate Professor of Urology and Vice Chair for Clinical Affairs

Residency Program Director
Patrick J. Shenot, MD, Assistant Professor of Urology

Co-directors Under Graduate Medical Education
Leonard A. Frank, MD, Clinical Assistant Professor of Urology
Costas D. Lallas, MD, Professor of Urology

Education Coordinator
John Davis

Clinical Curriculum

UROL. 401 Clinical Clerkship in Urology
(Dr. Shenot and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement

Students receive an 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 rotation, students are offered a broad range of practical and didactic opportunities. An oral presentation is required at the end of the rotation in a Grand Rounds setting.

Location:
01 Thomas Jefferson University Hospital
   Maximum 5
   We will fill TJUH before offering affiliate sites.
03 Bryn Mawr Hospital
   Maximum 1
IDPT. 410  Surgical Subspecialties  

For a full description, please see the Educational Program section of this catalog.

UROL. 352  Urology Selective  
(Dr. Lallas and Staff)
Credits 3.5. 10th through 21st Teaching Blocks.
Enrollment: Open.

This course is a 3-week rotation in Urology during the 12-week Surgical Clinical Clerkship. The third-year SKMC students will shadow residents and attending physicians to learn the basics of inpatient, outpatient, and perioperative urologic care. The urology group at Thomas Jefferson University is divided into three services. Students will spend one week on each service, which includes: oncology, endourology, and neuro/female/reconstructive urology. The students will attend inpatient rounds, predetermined service assignment either in the operating room or clinic, and required lectures on basic urologic topics. Students should become familiar with diagnostic entities (e.g., urinary incontinence, prostate cancer, urinary tract infection, nephrolithiasis), physical diagnosis components (e.g., digital rectal exam, testicular exam, abdominal exam) and procedures (e.g., bladder catheter insertion, interpretation of abdominal/pelvic CAT scans, GU ultrasonography).

Location:

01 Thomas Jefferson University Hospital  
Minimum 1, Maximum 4

03 Bryn Mawr Hospital  
Maximum 1

07 Wilmington VA Hospital  
Maximum 1

UROL. 425  Research in Urology  
(Dr. Lallas and Staff)
Credits 6. 10th through 21st Teaching Blocks.
Enrollment: By arrangement

This elective rotation 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 listed above. Assigned research mentor will vary by project proposal. For this ap-
proval, whether at TJUH or another institution, the student must submit in writing to the course director a description of the proposed project, a list of goals for the month, and the name of the faculty mentor prior to scheduling this elective. Evaluation for the course will be given by mentor. At least 80% of the total time on rotation must be dedicated to research.

**Location:**

01 Thomas Jefferson University Hospital  
Minimum 1, Maximum 5
The Degree of Doctor of Medicine

Graduates, Class of 2015

The recognition awarded Sidney Kimmel Medical College’s quality medical education was demonstrated during the 2015 Match Day, the national program that attempts to match students throughout the country with their choices for residency.

Nadia Abidi
Medicine—Preliminary — Lankenau Medical Center, PA

Abdul-Razaq Adeniyi
Internal Medicine — York Hospital, PA

Sunil Adige
Internal Medicine — University of Maryland Medical Center, MD

Angus Agnew
Emergency Medicine — Christiana Care, DE

Patricia Ajayi-Fox
Internal Medicine /Global Health — University of Pittsburgh Medical Center Medical Education, PA

Bradley Albertson
Pediatrics — Sidney Kimmel Medical College/duPont Children’s Hospital, PA

Roma Amin
Family Medicine — Grant Medical Center, OH

Karine Amirikian
Pediatrics — University of Chicago Medical Center, IL

Mark Ashamalla
Medicine—Preliminary — Albany Medical Center, NY

Radiation Oncology — New York Methodist Hospital, NY

Annie Ashok
Orthopaedics — Drexel University COM/Hahnemann University Hospital, PA

Tsung Wai Aw
Psychiatry — Thomas Jefferson University, PA

Dierdre Axell-House
Internal Medicine — University of Virginia, VA

Jane Babiarcz
Internal Medicine — Oregon Health & Science University, OR

Jennifer Baker
Surgery — University of Cincinnati Medical Center, OH
AUREEN BAKSH  
Pediatrics — University of Arizona Affiliated Hospitals, AZ

MARK BALCENIUK  
Surgery — University of Rochester/Strong Memorial Hospital, NY

MOUNICA BANALA  
Internal Medicine — Ocala Health System, FL

MICHAEL BARBATO  
Pediatrics — Miami Children’s Hospital, FL

NICHOLAS BARNARA  
Pathology — New York University School of Medicine, NY

GUSTAVO BARRAZUETA  
Orthopaedics — Tufts Medical Center, MA

CHRISTOPHER BARRETT  
Internal Medicine — Stanford University Programs, CA

MOHAMMED BASITH  
Psychiatry — Hershey Medical Center/Pennsylvania State University, PA

Dexter Bateman  
Orthopaedics — Rutgers-Robert Wood Johnson Medical School, NJ

Elizabeth Bates  
Family Medicine — Swedish Medical Center, WA

Daniel Becchi  
Emergency Medicine — University of New Mexico School of Medicine, NM

Rebecca Beichner  
Family Medicine — Washington Hospital, PA

Juliana Bennison  
Family Medicine — Icahn School of Medicine-Beth Israel Hospital, NY

Mark Berguson  
Anesthesiology — Thomas Jefferson University, PA

Jonathan Beri  
Pediatrics — Sidney Kimmel Medical College/duPont Children’s Hospital, PA

Meera Bhardwaj  
Internal Medicine — Icahn School of Medicine at Mount Sinai, NY

Sumona Bhattacharya  
Internal Medicine — Rutgers-Robert Wood Johnson Medical School, NJ

Evan Bilheimer  
Family Medicine — Christiana Care, DE

Anthony Boniello  
Orthopaedics — Drexel University COM/Hahnemann University Hospital, PA

Mary Elizabeth Bonnet  
Family Medicine — University of Rochester/Strong Memorial Hospital, NY

John Bowen  
Emergency Medicine — Maimonides Medical Center, NY
Samantha Brackett
Anesthesiology — George Washington University, DC

Mary Brady
Transitional — Crozer-Chester Medical Center, PA
Dermatology — Geisinger Health System, PA

Ari Brandsdorfer
Medicine-Preliminary — University of Connecticut School of Medicine, CT
Ophthalmology — Albert Einstein College of Medicine, NY

Noah Buboltz
Pediatrics — St. Christopher’s Hospital, PA

Lauren Campbell
Obstetrics/Gynecology — Thomas Jefferson University, PA

Gregory Cannarsa
Neurological Surgery — University of Maryland, MD

Amanda Casagrande
Family Medicine — University of Pittsburgh Medical Center-St. Margaret Hospital, PA

Taryn Cazzoli
Medicine-Preliminary — Walter Reed National Medical Center, MD

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Ophthalmology — New York Eye & Ear Infirmary, NY

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Emergency Medicine — Drexel University COM/Hahnemann University Hospital, PA  
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Internal Medicine — Einstein/Montefiore Medical Center, NY  
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Internal Medicine — Mt. Auburn Hospital, MA  
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Emergency Medicine — Emory University School of Medicine, GA  
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Urology — Thomas Jefferson University, PA  
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Transitional — Reading Hospital Medical Center, PA  
Ophthalmology — Geisinger Medical Center, PA  
Jordan Deaner  
Transitional — Crozer-Chester Medical Center, PA  
Ophthalmology — Wills Eye Institute, PA  
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Radiology-Diagnostic — Icahn School of Medicine at Mt. Sinai, NY  
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Internal Medicine — Cooper University Hospital, NJ  
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Family Medicine — University of California-Davis Medical Center, CA  
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