



COLLEGE OF MEDICINE

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THE COLLEGE OF MEDICINE

The Undergraduate Overview

Interim Dean: Alma Littles; **Senior Associate Dean for Academic Affairs:** Alma Littles; **Associate Dean for Student Affairs and Admissions:** Robert Campbell; **Assistant Dean for Student Affairs:** Cheryl Porter; **Assistant Dean for Admissions:** Eric Laywell; **Senior Associate Dean for Research and Graduate Programs:** TBD; **Associate Dean for IMS:** Anthony Speights; **School of Physician Assistant Practice Associate Dean:** Benjamin J Smith; **Senior Associate Dean for the Regional Medical School Campuses:** Paul McLeod (Pensacola Campus); **Assistant Deans for the Regional Medical School Campuses:** Nicole Bentze (Sarasota Campus), George Bernardo (Daytona Beach Campus), Juliette Lomax-Homier (Fort Pierce Campus), Mark Chaet (Orlando Campus), Sandeep Rahangdale (Tallahassee Campus); **Director of Rural Health:** Kerwyn Flowers; **Director of the Clinical Learning Center:** Debra Danforth; **Director of the Medical Library:** Martin Wood; **Executive Director of Outreach and Advising:** Thesla Berne-Anderson; **Associate Dean for Faculty Development:** William Boyer; **Assistant Dean for Information Management:** TBD

The Florida State University College of Medicine, in partnership with local communities, provides a four-year program of study leading to the Doctor of Medicine (MD) degree. The College is fully accredited by the Liaison Committee on Medical Education of the Association of American Medical Colleges and the American Medical Association.

The mission of the College of Medicine is to educate and develop exemplary physicians who practice patient-centered health care, who discover and advance knowledge, and who are responsive to community needs, especially through service to elder, rural, and other medically underserved populations. The curriculum is comprehensive, preparing students to enter residency training in any specialty; however, the program of study emphasizes the priority areas identified in the College's mission.

Premedical Education

The practice of medicine requires a sound science background, and most medical schools have the same standard list of premedical requirements. Medical schools recruit, and the medical profession needs, individuals from diverse educational backgrounds who bring to the profession a variety of talents and interests. Medical schools review personal qualities, academic qualifications, communication skills, and motivation when considering candidates for selection.

Students considering medicine as a profession should consider carefully their undergraduate major area of study. Students should select a major area of study that is of interest and that will provide a foundation of knowledge necessary for the pursuit of several career alternatives. Students who select a major area of study solely, or primarily, because of the perception that it will enhance the chance of acceptance to medical school are not making a decision in their best interest. A science major is not a prerequisite for medical school, and students should not major in science simply because they believe this will increase their chances for acceptance. The most common majors for matriculating students include biology, biochemistry, psychology, exercise science, business, and various other nonscience majors.

The AAMC describes the medical profession as demanding in terms of the time, energy, and responsibility for other people's lives, and states that the commitment to continuing service and education is essential. The practice of medicine requires physical, emotional, and intellectual stamina; the desire to work with and for people; and, particularly, the ability to use critical thinking to solve problems. The undergraduate years should be a time for students to discover if they possess these characteristics.

Undergraduate students who are thinking about medical school are encouraged to visit or contact the College of Medicine Pre-health Professions Advising Office, 1115 West Call Street, (850) 644-7678; or e-mail the office at IMSAdvising@med.fsu.edu.

Honors Medical Scholars Program

The FSU College of Medicine, in conjunction with the FSU Honors Office, has established a program that is open annually to qualified students. The program allows eligible FSU honors students to pursue a Bachelor of Science degree of their choice while also participating in the Honors Medical Scholars Program, which includes a seminar course, mentorship program, and required pre-medical courses and experiences. Students participating in the program may be eligible for early admission to the FSU College of Medicine upon completion of pre-med requirements. Applications and program details are available from the FSU Honors Office at (850) 644-1841.

Degree Programs

Doctor of Medicine (MD)

The FSU College of Medicine trains students in allopathic medicine, which includes the diagnosis, management, and treatment of disease. The College confers upon its graduates the degree of Doctor of Medicine. Upon completion of the four-year Doctor of Medicine educational program, these physicians pursue graduate medical education (internship, residency, and sometimes fellowships), which is necessary for eventual licensure. Training in residency programs may take from three to nine additional years after completion of medical school.

To be considered for graduation from the FSU College of Medicine, a student must be judged by the Student Evaluation and Promotion Committee to be in good standing, must successfully complete and pass all required courses and clerkships, must successfully complete the end-of-third-year OSCE (Observed Structural Clinic Examination), must complete all required surveys and evaluations, and must have a passing score on the United States Medical Licensing Examination (USMLE) Steps 1, 2CK, and 2CS. Further information may be found in the Graduate Bulletin and in the College of Medicine Student Handbook at <https://med.fsu.edu>.

Doctor of Philosophy (PhD) in Biomedical Sciences

The Doctor of Philosophy in Biomedical Sciences Program is designed to prepare the next generation of health scientists for medical research and teaching in an era of increasing coordination and integration of traditional disciplines. Undergraduate majors in biology, biochemistry, chemistry, microbiology, or other life sciences are suitable for graduate studies in biomedical sciences. Research rotations during the first year allow students to make an informed choice of the research area and major professor with whom they will conduct their Doctor of Philosophy work. A core curriculum of the fundamentals, a wide array of electives from other departments, and intellectual interaction with faculty and post-doctoral fellows all encourage graduate students to mature into independent scientists.

To be considered for graduation from the FSU College of Medicine with the Doctor of Philosophy in Biomedical Sciences, the student must successfully complete all course requirements within five calendar years from the time the student gains admittance to candidacy by passing the preliminary exam. Other requirements for graduation include attending the Health Sciences Seminar Series; successfully completing the preliminary doctoral examination; submitting a doctoral research proposal approved by the major professor and the supervisory committee after admission to doctoral candidacy; registering for a minimum of twenty-four semester hours of dissertation credit; and submitting, publicly presenting, and successfully defending a dissertation.

Additional details are available at <https://med.fsu.edu/phd/home>. For additional information or inquires please contact us by calling (850) 645-6420.

Master of Science in Physician Assistant Practice

The Florida State University Physician Assistant Practice (PA) program comprises a seven-semester (27 months), 111-credit-hour program designed to train students to practice medicine as physician assistants as part of the Physician-PA Team. Upon completion, our graduates will receive the Master of Science in Physician Assistant Practice degree. The PA Program at FSU is extremely challenging with a strong emphasis in the biomedical sciences, simulation, and procedural skills. Although challenging, students will find a welcoming environment and an unrivaled network of support provided by an inter-professional team that is committed to students' academic and professional success. Upon successful completion, students will be eligible to sit for the Physician Assistant National Certifying Exam (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA) exam.

Admission Requirements

Admission to the Doctor of Medicine (MD) Program

All inquiries regarding admission should be sent to College of Medicine, Florida State University, Tallahassee, FL 32306-4300; or e-mail at medadmissions@med.fsu.edu.

Admission to the College of Medicine is a highly competitive process with between 6000 and 7000 applications received to select the students admitted. A number of academic and personal factors are considered by the admissions office and the College of Medicine selection committee when admitting students to medical school.

The FSU College of Medicine employs a holistic approach during the admissions process. Regarding admission to the regular M.D. program, the College evaluates all the following:

- Course load and undergraduate rigor
- Post-baccalaureate course work
- Service and volunteer record
- Shadowing and knowledge of the medical field
- Research activities
- Likelihood of practicing within the State of Florida
- Undergraduate grade point average
- MCAT score
- And the degree of the candidate's fit with respect to the College's unique mission statement.

The Admission Committee is especially interested in applicants who have demonstrated through their lifestyle consistent motivation for service to others. Applicants from rural and inner-city backgrounds, women, and non-traditional applicants are of particular interest.

To apply to the College of Medicine at Florida State University, an applicant will complete a primary application through the American Medical College Application Service (AMCAS), submit an official Medical College Admission Test (MCAT) score that is no more than five (5) years old at the time of application, submit at least three (3), but no more than six (6) letters of recommendation, complete the FSU Secondary Application and pay the \$30 non-refundable application fee. All applicants who are US Citizens or Permanent Residents in possession of a green card, who submit a complete, verified primary application through AMCAS, will receive an invitation to complete the secondary application. A bachelor's degree is required by the time of admission to medical school. If an applicant is currently enrolled in a degree program, the program must be completed and transcripts provided to the College of Medicine admissions office prior to the beginning of classes in late May/early June. All required prerequisite coursework must be completed prior to matriculating to the FSU College of Medicine. A list of these required courses can be found on the College of Medicine website: <https://med.fsu.edu/mdAdmissions/admissionRequirements#prereq>.

Admission to the Doctor of Philosophy (PhD) in Biomedical Sciences Program

To apply for the PhD in Biomedical Sciences Program, students should contact the College of Medicine's Office of Research and Graduate Programs at (850) 645-6420 or check the program's Website (<https://med.fsu.edu/phd/home>). Admissions requirements for the Doctor of Philosophy in Biomedical Sciences Program are as follows. A prospective candidate must:

- Have or be a candidate for a baccalaureate degree from an accredited college or university and be in good standing at the last institution attended
- Have a minimum GPA of 3.0 (on a 4.0 scale)
- Have a minimum combined verbal and quantitative score of 1000 or above on the Graduate Records Examination (GRE)
- A GRE Subject test is strongly recommended and may include biochemistry and cell biology, general biology, chemistry, or physics. Applicants whose native language is not English and who have not received a degree from an English language institution are required to take the Test of English as a Foreign Language (TOEFL), receiving a minimum score of 80 for the Internet based (IB) test or 550 for the paper test. Special admission consideration may be requested based on disability.
- Applicants may send the required material to the University Admission Office at <https://admissions.fsu.edu/gradapp>.
- Master of Science in Physician Assistant Practice (PA) Program
- The Florida State University PA program participates in the CASPA (Centralized Application System for Physician Assistants). To apply, all applicants must submit a completed CASPA application in addition to completing the FSU supplemental application. The CASPA application will be available May 1. The deadline for submission of the CASPA, including supplemental application questions, and payment of supplemental application fee is October 1. Applications will not be considered without the following: 1) Verified CASPA application with supplemental questions, 2) Official GRE scores, and 3) Payment of supplemental application fee.
- Applicants must have a bachelor's degree from a regionally accredited college or university.
- GPA: Minimum cumulative GPA 3.0 and a minimum prerequisite math and science GPA of 3.0. A candidate that has a completed graduate degree with at least 30 credit hours may submit a written request to the PA admissions coordinator to replace the undergraduate cumulative GPA with the higher graduate GPA if the cumulative graduate GPA is higher.

- GRE: Applicants must submit GRE scores taken within the last 3 years. We do not accept the MCAT or other substitutes. There is no minimum score and students will be evaluated on a competitive basis. CASPA's Code is 2122.
- Transcripts are not required until an official offer of admission has been made. At that time applicants must submit an OFFICIAL copy of all transcripts from each University/College attended directly to the FSU College of Medicine Admissions Office. International transfer credit is awarded for coursework completed at an accredited (recognized) institution of higher learning. No credit is awarded for technical, vocational, or below-college-level coursework, or courses completed with grades below "C." "C-" will not be accepted. An official course-by-course evaluation is required for all academic records from non-U.S. institutions. We recommend the evaluation be done by a member of the National Association of Credential Evaluation Services (<https://www.naces.org>).
- English Language Proficiency: Official English Language Proficiency results are required of all international applicants whose native language is not English. The following are the minimum scores required for admission to the Physician Assistant Program: Internet based TOEFL (IBTOEFL): 88, Paper based TOEFL (TOEFL): 570, and International English Language Testing System (IELTS): 7.0. These scores are considered official only when they are sent directly to the Office of Admissions from the testing agency and are not valid after two years.
- A minimum of 500 hours of direct patient care experience is required with additional experience recommended. Direct care is defined as "hands on" patient contact that involves interaction with patients. Examples of experience that qualify: nursing assistant, EMT, paramedic, nurse (LPN, RN, BSN, NP, CRNA), patient care attendant, athletic trainer, physical therapist, respiratory therapist, x-ray technician, medical assistant, military medical technician/corpsman, international medical graduates, chiropractor, licensed massage therapist, optometrist, and pharmacist. Additional examples can be found in the FAQ section of the PA program website. Examples of experiences that do not qualify for the purposes of admission to the FSU PA Program are: hours obtained by shadowing, experience obtained as student in a healthcare profession, pharmaceutical representative, lifeguard, police officer, firefighter, medical scribe, unit clerk, or medical secretary. Applicants must document experiences on the Direct Patient Care Experience Form. All hours must be completed before May 1 of the matriculation year. Experiences can be full-time, part-time, or volunteer. Applicants who do not believe they can achieve the minimum 500 hours prior to the time of application can take PAS 2054 Introduction to the Physician Assistant Profession at the FSU campus. This course is an exploration of the PA profession. It satisfies the 500-hour requirement but does not eliminate the need for some patient care experience. For more information, please see the FAQ (<https://med.fsu.edu/pa/faq>) section of the PA program website.
- Applicants must submit at least 3 (three) letters of recommendation and no more than 5 (five). It is suggested that at least one reference should be from a healthcare provider and one should be from a science faculty member who taught the applicant. These letters should be from people who have worked with and know the applicant. References from family members or friends will not be accepted.
- Citizenship: All applicants must be US citizens or Permanent Resident Aliens in possession of a "green card."

BioMedical Sciences (BS)

The Biomedical Sciences BS degree program is designed to provide a broad background to develop scientific and psychosocial knowledge and an understanding of the healthcare team and the healthcare system. So that students may pursue their specialized and professional interests, three (3) interdisciplinary majors are offered: Clinical Professions; Community Patient Care; and Health Management, Policy, and Information. The Biomedical Sciences Degree Program's rigorous science core-curriculum, individualized advising, experiential service learning, and developmental seminar and capstone course sequence enable students to reach their potential academically and personally, to determine a career path best suited for them, and to develop the skills, attitudes, and acumen to attain their career goals.

The program includes three to four one-credit-hour experiential seminar courses that engage students with the challenges of healthcare in community, clinical, political, and research venues. The medical sciences seminar sequence leads to a senior capstone course which requires the submission of a scholarly report, and oral presentation describing the student's academic inquiry into a current health issue of interest. The capstone course meets the Scholarship in Practice and Upper-Division Writing CoreFSU Curriculum requirements.

Resources are available to help students locate opportunities in clinics, community service organizations, hospitals, pharmacies, and physician's offices for students to engage in the various ways healthcare is accessed. Students are required to obtain a minimum of 64 hours of experiential learning hours each academic year for a total of 256 experiential learning hours before graduation. These hours must be approved by the Community Coordinator in advance.

Although housed in the College of Medicine, the curriculum is delivered by seven colleges at FSU. In addition to the College of Medicine, the College of Arts and Sciences, the College of Communication and Information, the College of Education, Health, and Human Sciences, the College of Nursing, the College of Social Sciences and Public Policy, and the College of Social Work are IMS degree program partners.

Curriculum guides stating specific degree requirements for the undergraduate majors are available through the Office of Undergraduate Programs and through our website at <https://med.fsu.edu/imsDegree/home>.

The Pre-Health Professions Advising Office

The Florida State University College of Medicine provides academic advising and counseling to students interested in pursuing careers in the health professions. Currently, over 1,300 students are enrolled in this advising program. Many of the students who seek advising in the advising office are pre-medical students. However, the program is open to all pre-health students including pre-anesthesiology assistant, pre-chiropractic, pre-dentistry, pre-occupational therapy, pre-optometry, pre-pharmacy, pre-physical therapy, pre-physician assistant, pre-podiatry, pre-veterinary, and pre-genetic counseling. Full-time pre-health professions advisors meet regularly with these students throughout their college years, assisting with career goals, course scheduling, long-term academic planning, and professional school admission procedures.

In addition to one-on-one advising, the advising office also sponsors programs of special interest to pre-health students. Programs include panel discussions with admissions representatives from various medical and professional schools and workshops on succeeding in the application process and on interviewing strategies. The Pre-Health Professions Advising Office also sponsors a number of student organizations (refer to 'Organizations and Societies' below).

Florida State University has a competitive acceptance rate to medical and professional schools nationwide, and many of our graduates have been recognized for their outstanding contributions and achievements in the field of medicine.

Students interested in pursuing health professions careers are encouraged to schedule an appointment with a pre-health professions advisor at least once a year with the College of Medicine Pre-health Professions Advising Office. Appointments are scheduled online through the College of Medicine website.

Organizations and Societies

Organizations and societies sponsored by the Pre-Health Professions Advising office are listed below.

Alpha Epsilon Delta (AED) is the Pre-Health Professional honor society. The society welcomes members who are planning careers in medicine, podiatry, dentistry, veterinary medicine, optometry, and pharmacy, but with an emphasis on the medical field. To become a national member, students must be in the second semester of their sophomore year and have an overall and a science GPA of at least 3.2. Freshmen and sophomores are encouraged to participate in activities of the society. The Florida-Beta chapter at Florida State University was founded in 1946 and is one of the oldest chapters in the Southeast. The society invites speakers who represent the health professions, plans trips to area professional schools, and participates in community service.

The **American Medical Student Association (AMSA)** provides information, support, and leadership for future physicians in training. This organization stresses a strong commitment to service and is open to all FSU students.

The **American Medical Women's Association (AMWA)** supports women in medicine on the community, national, and international levels by increasing the awareness of health concerns that are exclusive to women.

The mission of **Analyze, Act, and Advocate Health (AAA)** is to Analyze social determinants of health, Act through service, and Advocate for the affected communities with the intention of energizing and encouraging citizens with varying backgrounds to get involved in communal health efforts. AAA Health strives to alleviate the symptoms of health disparities by observing health comprehensively and addressing multifaceted issues that contribute to a community's overall health. Students passionate about service and aspiring to enter the health professions will have the opportunity to approach and dissect social determinants of health through engagement in education and dialogue prior to committing to and serving in partner community organizations.

Connecting Experimental Lab and Life Sciences (CELLS) promotes research for undergraduates and provides a social and professional network for students engaged in biomedical, clinical, and social science research. CELLS at FSU will introduce and prepare undergraduate students for an exciting research experience by providing avenues for networking with research faculty. This organization offers workshops, mentoring, lab tours, service events, field trips, research symposiums, interactive discussions with research scientists and advice on internships and biomedical research careers.

The **Multicultural Association of Pre-Medical Students (MAPS)** works to enhance the recruitment of culturally diverse students into health care fields and to assist members in becoming more successful candidates for professional health and medical programs.

The **Physical Therapy and Occupational Therapy Club (PT/OT)** provides an opportunity for the pre-physical/occupational therapy students of Florida State University to assist one another in preparation for graduate school. The club provides a means by which pre-physical/occupational therapy students can get to know each other and help each other with planning, GRE preparation, and physical/occupational therapy school applications. We bring in practicing physical and occupational therapists, current physical/occupational therapy school students, and physical/occupational therapy school recruiters in order to help students understand the profession and gain knowledge of the physical/occupational therapy school admissions process.

The **Pre-Dental Society** is an organization established to further educate those students who plan to enter dental school. The organization strives to advance the education of members by providing an information network in directing their pre-dental education. Members may access information about coursework, dental schools, test preparation, and the application process. Guest professionals from the local dental community in Tallahassee are invited to speak at meetings. Membership is available through the Pre-Health Professions Advising Office.

The **Pre-Optometry Club** encourages and educates students who express an interest in pursuing a career in optometry. Students have opportunities to shadow optometrists and to meet representatives from optometry schools. The club seeks to encourage an exploration of the field while providing its members with information to better prepare for optometry school.

The **Pre-Pharmacy Informational Leadership and Learning Society (PILLS)** is a student organization for those interested in pursuing a career in pharmacy.

The **Pre-Physician Assistant (PA) Club** is an organization for students interested in a career as a physician assistant. Monthly meetings are held at the College of Medicine. The meetings include guest speakers from the community as well as presentations from physician assistant programs.

The **Pre-Student of Osteopathic Medicine Association (P-SOMA)** is an affiliated chapter of the national Pre-Student Osteopathic Medical Association. We are dedicated to promoting the osteopathic tradition at Florida State University, and in the Tallahassee area, and to creating stronger, more knowledgeable students for entry into osteopathic medical institutions around the country. The chapter invites school admissions representatives, practicing physicians, and medical lecturers to speak at its meetings, and provides scholarships, shadowing and volunteering experiences, tutoring, and opportunities for meaningful leadership to its members.

The **Pre-Veterinary Society** is an organization that provides an environment where students can expand their interests in veterinary medicine. Members build a strong support group to share information about coursework, the application process, and volunteer opportunities in the Tallahassee area. A focus is on assisting the community with animal-related issues. Membership information is available through the Pre-Health Professions Advising Office.

THE COLLEGE OF MEDICINE

GRADUATE STUDIES

Information for Graduate Students

Interim Dean: Alma Little; **Senior Associate Dean for Academic Affairs:** Alma Little; **Associate Dean for Continuous Quality Improvement:** J. Michael Overton; **Associate Dean for Student Affairs and Admissions:** Robert Campbell; **Assistant Dean for Student Affairs:** Cheryl Porter; **Assistant Dean for Admissions:** Eric Laywell; **Senior Associate Dean for Research and Graduate Programs:** TBD; **Associate Dean for IMS:** Anthony Speights; **School of Physician Assistant Practice Associate Dean:** Benjamin J Smith; **Senior Associate Dean for the Regional Medical School Campuses:** Paul McLeod (Pensacola Campus); **Assistant Deans for the Regional Medical School Campuses:** Nicole Bentze (Sarasota Campus), George Bernado (Daytona Beach Campus), Juliette Lomax-Homier (Fort Pierce Campus), Mark Chaet (Orlando Campus), Sandeep Rahangdale (Tallahassee Campus); **Director of Rural Health:** Kerwyn Flowers; **Director of the Clinical Learning Center:** Debra Danforth; **Director of the Medical Library:** Martin Wood; **Executive Director of Outreach and Advising:** Thesla Berne-Anderson; **Associate Dean for Faculty Development:** William Boyer; **Assistant Dean for Information Management:** TBD

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The mission of the College of Medicine is to educate and develop exemplary physicians and physician assistants who practice patient-centered health care, discover and advance knowledge, and are responsive to community needs, especially through service to elder, rural, minority, and underserved populations. The third- and fourth-year curriculum is primarily in ambulatory settings and focuses on preparing students to deliver primary care for Florida's underserved senior, rural, minority and inner-city populations. However, the Florida State University College of Medicine student selection process and the comprehensive physician and physician assistant training programs do not exclude students interested in specialty medicine, as specialty training is a required part of the curriculum. The physician assistant curriculum, with a strong emphasis in the biomedical sciences, simulation, and procedural skills, prepares graduates to work in any clinical setting and to be responsive to community needs, especially through service to elder, rural, minority and underserved populations.

The Florida State University College of Medicine (FSUCOM) was created in June 2000 by a legislative act, Florida House Bill 1121/Senate Bill 1692, to serve the unique needs of the citizens of the state of Florida. The Program in Medical Sciences (PIMS), founded in 1971 as an expansion program of the University of Florida College of Medicine, is the foundation upon which The Florida State University medical school is built.

During the first two years of medical school, the basic sciences and early clinical exposure are taught at Florida State University and housed in the John E. Thrasher College of Medicine Building. Years three and four are community-based and focus on clinical training. The community-based model ensures that students receive training in a variety of practice settings including rural and inner-city hospitals, nursing homes, residency programs, clinics, and doctors' offices. Clinical training sites are located in Tallahassee, Pensacola, Orlando, Sarasota, Daytona Beach, Ft. Pierce, several Family Medicine Residency Programs, Marianna, Immokalee, and several other rural communities. Students are connected to the College of Medicine and the respective regional campuses through Internet access, videoconferencing and hand-held data units. Through these units, students can access medical information, communicate with the College of Medicine main campus, and record and evaluate their clerkship and preceptorship experiences.

During the first 15 months of PA school, basic and clinical sciences are taught. The Florida State PA program also utilizes the community-based clinical training model through the regional campuses.

The John E. Thrasher Building at the College of Medicine houses the educational program. It serves as the hub for the extensive electronic network connecting all faculty and students at several locations throughout Florida. Basic medical science and clinical training courses that utilize state-of-the-art technology and nationally recognized academicians and clinicians at The Florida State University College of Medicine and at clinical sites elsewhere in Florida have been established.

The Medical Library

The Florida State University Charlotte Edwards Maguire Medical Library was developed as a twenty-first century library with over ninety-five percent of its resources delivered in electronic format for access twenty-four hours per day, seven days per week from desktops, laptops, or PDAs anywhere the student or faculty member is located. FSU students and faculty have access to over 2,100 MEDLINE journals and other medical journals specifically selected by faculty. These subscribed journals provide access to 6.2 million full-text articles appearing in PubMed. Approximately 400 electronic medical reference and textbooks are licensed both for the College of Medicine and the University. New and emerging evidence-based medicine Websites and PDA products are especially suited to the electronic environment because they are continually updated and summarize the latest medical treatments and protocols. To name a few, the library licenses InfoRetriever, DynaMed, ePocrates, Clinical Evidence, ACP Pier, PepID, and the Cochrane databases. The physical facility of the Maguire Medical Library is located in the John E. Thrasher Building at the College of Medicine. The library holds a small core collection of print reference and textbooks and provides ample individual study space for students. As part of a larger university system, the students and faculty of the College of Medicine also have access to a broad range of electronic resources that support disciplines related to the medical curriculum and research interests of the college, such as psychology, health policy, aging studies, nutrition, exercise, and sports medicine. These resources include databases as well as large collections of e-books and e-journals. Overall, 48,000 electronic serial titles and approximately 400,000 e-books are available to COM students and faculty for both on-campus and remote access.

Medical and PA students also have access to the Paul M. Dirac Library and the Robert Manning Strozier Library of Florida State University.

The Clinical Learning Center

The Clinical Learning Center, located in the John E. Thrasher Building at the College of Medicine, is a state-of-the-art teaching and assessment center that provides opportunities for medical and PA students to learn clinical skills in a simulated clinical setting. Students learn and practice hands-on clinical skills in a supportive environment that incorporates the latest and best innovations in interactive medical technology and education. Fourteen examination rooms and two consultation rooms are equipped with audio-visual resources to record student-patient interactions for teaching and evaluation. Using standardized patients trained to portray an actual patient by simulating an illness or other physical findings, the Clinical Learning Center provides support for faculty in small group sessions to help teach students communication and physical exam skills.

The Office of Advising and Outreach

The Office of Advising and Outreach, located in the John E. Thrasher Building at the College of Medicine, provides pre-health advising and counseling to all Florida State University students who are interested in pursuing careers in the health sciences. The Advising Office sponsors pre-professional organizations that provide essential information and experiences for undergraduates interested in specific health science careers including allopathic and osteopathic medicine, pre-dental, pre-veterinary medicine, pre-optometry, pre-physician assistant, physical and occupational therapy, and pre-pharmacy.

Outreach Programs at the FSU College of Medicine include an in-school and after school pre-college program called Science Students Together Reaching Instructional Diversity and Excellence (SSTRIDE©) located in Gadsden, Sarasota, Collier, and Okaloosa Counties. Agreements with these school systems help provide enhanced educational experiences in the areas of science, technology, mathematics, and medicine to rural and inner-city youth. Pre-medical students, graduate students, and medical students participate in the program by providing mentorship to middle and high school students in the program. In addition, these students are provided services and opportunities through our undergraduate outreach program called USSTRIDE (Undergraduate SSTRIDE). The services include, but are not limited to, mentoring, test prep, clinical training, biweekly meetings, medical student and physician panels, health professional panels, volunteer opportunities, and study groups.

Honors Medical Scholars Program

The FSU College of Medicine, in conjunction with the FSU Honors Office, has established a program that is open annually to qualified students. The program allows eligible FSU honors students to pursue a Bachelor of Science degree of their choice while also participating in the Honors Medical Scholars Program, mentorship program, and required pre-medical courses and experiences. Students participating in the program may be eligible for early admission to the FSU College of Medicine upon completion of pre-med requirements. Applications and program details are available from the FSU Honors Office at (850) 644-1841.

Degree Requirements

Doctor of Medicine (MD) Degree

The four-year curriculum consists of courses in the biomedical sciences, medical humanities, and social sciences; a doctoring curriculum that teaches clinical skills; preceptorships; community-based health care experiences; and clerkships in applied clinical medicine.

The pre-clerkship coursework (years one and two) takes place on the Florida State University main campus and is designed to provide students with essential basic science and general clinical information necessary for their clinical training in years three and four. Students study a core curriculum to help develop an understanding of the structure and function of the human system. The structure and function of the healthy human is studied in the first year. During the second year, emphasis is placed on microbiology, pathology, pharmacology, and general therapeutic principles for the "sick" human. The basic science and clinical instructors use a combination of small group and lecture-based instruction.

The third and fourth years are devoted to required and elective clinical clerkship rotations of two to eight weeks, most of which take place at one of the College of Medicine Regional Medical School campuses. Hospitals, physicians' offices, neighborhood clinics, residency programs, and public health units are used as training sites in which students actively participate in the clinical setting. Up to twenty-four weeks (minimum sixteen weeks) in the fourth year are devoted to student electives in which students are able to choose among select rotations including subspecialty rotations. Twelve weeks must be spent in FSUCOM sponsored electives at any of the College of Medicine sites. The remaining twelve weeks can be spent in an elective study at any accredited medical school or approved clinical setting in the United States. In select cases, consideration may be given to limited international electives with prior approval.

The FSU College of Medicine trains students in allopathic medicine, which includes diagnosing, managing, and treating disease. The college confers upon its graduates the degree of Doctor of Medicine (MD). Upon completion of the four-year MD educational program, these physicians pursue graduate medical education (internship, residency, and sometimes fellowships), which is necessary for eventual licensure. Training in residency programs may take from three to nine additional years after completion of medical school.

To earn the MD degree a student must complete all required coursework and clerkships in years one through four, including a minimum of sixteen weeks of electives in the fourth year; complete all required surveys and evaluations; pass the USMLE Step 1, Step 2 CK, and Step 2 CS; pass an OSCE (Objective Structured Clinical Examination) at the end of the third year clerkship rotations (graduation OSCE); complete all requirements in the procedures log; remain in good standing and maintain a passing grade in each course or clerkship. Further information may be found in the online College of Medicine Student Handbook at <https://med.fsu.edu/sites/default/files/userFiles/file/StudentHandbook.pdf>.

As part of the academic and clinical curriculum, the College of Medicine emphasizes the importance of the professional and ethical development of all medical students. The College of Medicine expects professional behavior of physicians in training in all academic activities and when interacting with patients, colleagues, faculty, and staff. Professional behavior encompasses understanding of and adherence to all aspects of the academic honor code, as well as altruism, accountability, caring, compassion, devotion to duty, the practice of excellent medical care, and respect for others. These qualities and behaviors are evaluated throughout the student's four years at the College of Medicine. In conferring the Doctor of Medicine degree, the Florida State University College of Medicine certifies that the student is competent, knowledgeable, and possesses those personal traits essential to practicing the art and science of medicine.

Doctor of Philosophy (PhD) in Biomedical Sciences Program

The Doctor of Philosophy (PhD) in Biomedical Sciences Program is designed to prepare the next generation of health scientists for medical research and teaching in an era of increasing coordination and integration of traditional disciplines. The College of Medicine grants the PhD in Biomedical Sciences through an interdisciplinary program with the goal of training students to conduct research in the broad area of the molecular basis of human disease, including the function of the human genome in development, neurobiology, aging, cancer, and other disease. Undergraduate majors in biology, biochemistry, chemistry, microbiology, or other life sciences are suitable for graduate studies in biomedical sciences.

The curriculum for the Biomedical Sciences degree includes core courses in statistics and ethics in research, as well as specialized biomedical coursework and laboratory research. Laboratory rotation in at least two laboratories during the first year is a degree requirement. The direction and supervision of graduate work at the doctoral level resides primarily with the major professor and supervisory committee, which is comprised of four faculty members. Research rotations during the first year allow students to make informed choices regarding the research area and major professor with whom they will conduct their PhD work. A core curriculum of the fundamentals, the choice of electives from other departments, and intellectual interaction with faculty and postdoctoral fellows encourage graduate students to mature into independent scientists.

To be considered for graduation from the FSUCOM with the PhD in Biomedical Sciences, the student must successfully complete all course requirements within five calendar years from the time the student gains admittance to candidacy by passing the preliminary exam. Other requirements for graduation include attending the Health Science Seminar Series, successfully completing the preliminary doctoral examination, submitting a doctoral research proposal approved by the major professor and the supervisory committee after admission to doctoral candidacy, registering for a minimum of twenty-four semester hours of dissertation credit, and submitting, publicly presenting, and successfully defending a dissertation.

Additional details are available at <https://med.fsu.edu/phd/home>.

Master of Science in Physician Assistant Practice

The Florida State University Physician Assistant Practice (PA) program is a seven semester (27 months), 111 credit hour program designed to train students to practice medicine as physician assistants as part of the Physician-PA Team. Upon completion, our graduates will receive the Master of Science in Physician Assistant Practice degree. The PA Program at FSU is extremely challenging with a strong emphasis in the biomedical sciences, simulation, and procedural skills. Although challenging, students will find a welcoming environment and an unrivaled network of support provided by an inter-professional team that is committed to students' academic and professional success. Upon successful completion, students will be eligible to sit for the Physician Assistant National Certifying Exam (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA).

Academic Policies

All academic policies of the College of Medicine can be found in the College of Medicine Student Handbook, which is made available online to all students who enter the college at <https://med.fsu.edu/sites/default/files/userFiles/file/StudentHandbook.pdf>.

The four-year Florida State University College of Medicine is a full-time allopathic medical school in accordance with the standards set by the Liaison Committee on Medical Education of the Association of American Medical Colleges and the American Medical Association. The minimum credit hour load requirement for each cohort is designed to ensure that medical students will complete their medical studies within a four-year period of time. The first year is a twelve-month curriculum. The second year is nine months. The third and fourth years are eleven months each. All basic science courses and clerkships are mandatory for all students.

The 27-month Florida State University School of Physician Assistant Practice program is a full-time program in accordance with the standards set by the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA). The didactic portion of the program is 15 months in duration followed by a 12-month clinical training period.

Authorization for less than the full-time status will be granted by the Dean of the College of Medicine upon the recommendation of the Student Evaluation and Promotion Committee (SEPC) and the Associate Dean for Student Affairs. A recommendation of an extension of attendance time by the SEPC will be based on a compelling need as presented by the student.

Admission Requirements

Doctor of Medicine (MD) Program

Admission to the College of Medicine is a highly competitive process with between 6000 and 7000 applications received to select the students admitted. A number of academic and personal factors are considered by the admissions office and the College of Medicine selection committee when admitting students to medical school.

The FSU College of Medicine employs a holistic approach during the admissions process. Regarding admission to the regular M.D. program, the College evaluates all the following:

- Course load and undergraduate rigor
- Post-baccalaureate course work
- Service and volunteer record
- Shadowing and knowledge of the medical field
- Research activities
- Likelihood of practicing within the State of Florida
- Undergraduate grade point average
- MCAT score
- And the degree of the candidate's fit with respect to the College's unique mission statement.

The Admission Committee is especially interested in applicants who have demonstrated through their lifestyle consistent motivation for service to others. Applicants from rural and inner-city backgrounds, women, and non-traditional applicants are of particular interest.

To apply to the College of Medicine at Florida State University, an applicant will complete a primary application through the American Medical College Application Service (AMCAS), submit an official Medical College Admission Test (MCAT) score that is no more than five (5) years old at the time of application, submit at least three (3), but no more than six (6) letters of recommendation, complete the FSU Secondary Application and pay the \$30 non-refundable application fee. All applicants who are US Citizens or Permanent Residents in possession of a green card, who submit a complete, verified primary application through AMCAS, will receive an invitation to complete the secondary application. A bachelor's degree is required by the time of admission to medical school. If an applicant is currently enrolled in a degree program, the program must be completed and transcripts provided to the College of Medicine admissions office prior to the beginning of classes in late May/early June. All required prerequisite coursework must be completed prior to matriculating to the FSU College of Medicine. A list of these required courses can be found on the College of Medicine website: <https://med.fsu.edu/mdAdmissions/admissionRequirements#prereq>.

Doctor of Philosophy (PhD) in Biomedical Sciences Program

To apply for the Doctor of Philosophy (PhD) in Biomedical Sciences Program, students should contact the College of Medicine's Office of Research and Graduate Programs at (850) 645-6420 or check the program website (<https://med.fsu.edu/phd/home>) for other contact information. Admission requirements for the PhD in Biomedical Sciences Program are as follows: a prospective candidate must:

1. have or be a candidate for a baccalaureate degree from an accredited college or university and be in good standing at the last institution attended,
2. have a minimum GPA of 3.0 (on a 4.0 scale), and
3. have a minimum combined verbal and quantitative score of 1000 on the Graduate Records Examination (GRE).

A GRE Subject Test is strongly recommended and may include Biochemistry and Cell Biology, General Biology, Chemistry, or Physics. Applicants whose native language is not English, and who have not received a degree from an English language institution are required to take the Test of English as a Foreign Language (TOEFL), receiving a minimum score of 80 for the Internet based (IB) test or 550 for the paper test. Special admission consideration may be requested for students with disabilities.

Applicants must also submit the required material to the University Admissions Office through their Website at <https://admissions.fsu.edu/gradapp>.

Master of Science in Physician Assistant Practice (PA) Program

The Florida State University PA program participates in the CASPA (Centralized Application System for Physician Assistants). To apply, all applicants must submit a completed CASPA application in addition to completing the FSU supplemental application. The CASPA application will be available May 1. The deadline for submission of the CASPA, including supplemental application questions, and payment of supplemental application fee is October 1. Applications will not be considered without the following:

1. Verified CASPA application with supplemental questions,
2. Official GRE scores, and
3. Payment of supplemental application fee.

Applicants must have a bachelor's degree from a regionally accredited college or university.

GPA: Minimum cumulative GPA 3.0 and a minimum prerequisite math and science GPA of 3.0. A candidate that has a completed graduate degree with at least 30 credit hours may submit a written request to the PA admissions coordinator to replace the undergraduate cumulative GPA with the higher graduate GPA if the cumulative graduate GPA is higher.

GRE: Applicants must submit GRE scores taken within the last 3 years. We do not accept the MCAT or other substitutes. There is no minimum score and students will be evaluated on a competitive basis. CASPA's Code is 2122.

Transcripts are not required until an official offer of admission has been made. At that time applicants must submit an OFFICIAL copy of all transcripts from each University/ College attended directly to the FSU College of Medicine Admissions Office. International transfer credit is awarded for coursework completed at an accredited (recognized) institution of higher learning. No credit is awarded for technical, vocational, or below-college-level coursework, or courses completed with grades below "C." "C-" will not be accepted. An official course-by-course evaluation is required for all academic records from non-U.S. institutions. We recommend the evaluation be done by a member of the National Association of Credential Evaluation Services (<https://www.naces.org/>) or the International Education Credential Services provided by the American Association of Collegiate Registrars and Admissions Officers (<https://aacrao.org/resources/AACRAO-International/international-education-services>).

English Language Proficiency: Official English Language Proficiency results are required of all international applicants whose native language is not English. The following are the minimum scores required for admission to the Physician Assistant Program: Internet based TOEFL (IBTOEFL): 88; Paper based TOEFL (TOEFL): 570; and International English Language Testing System (IELTS): 7.0. These scores are considered official only when they are sent directly to the Office of Admissions from the testing agency and are not valid after two years.

A minimum of 500 hours of direct patient care experience is required with additional experience recommended. Direct care is defined as "hands on" patient contact that involves interaction with patients. Examples of experience that qualify: nursing assistant, EMT, paramedic, nurse (LPN, RN, BSN, NP, CRNA), patient care attendant, athletic trainer, physical therapist, respiratory therapist, x-ray technician, medical assistant, military medical technician/corpsman, international medical graduates, chiropractor, licensed massage therapist, optometrist, and pharmacist. Additional examples can be found in the FAQ section of the PA program website. Examples of experiences that do not qualify for the purposes of admission to the FSU PA Program are hours obtained by shadowing, experience obtained as student in a healthcare profession, pharmaceutical representative, lifeguard, police officer, firefighter, medical scribe, unit clerk, or medical secretary. Applicants must document experiences on the Direct Patient Care Experience Form. All hours must be completed before May 1 of the matriculation year. Experiences can be full-time, part-time, or volunteer. Applicants who do not believe they can achieve the minimum 500 hours prior to the time of application can take PAS 2054, "Introduction to the Physician Assistant Profession" at the FSU campus. This course is an exploration of the PA profession. It satisfies the 500-hour requirement but does not eliminate the need for some patient care experience. For more information, please see the <https://med.fsu.edu/pa/faq> section of the PA program website.

Applicants must submit at least three letters of recommendation and no more than five. It is suggested that at least one reference should be from a healthcare provider and one should be from a science faculty member who taught the applicant. These letters should be from people who have worked with and know the applicant. References from family members or friends will not be accepted.

Citizenship: All applicants must be US citizens or Permanent Resident Aliens in possession of a "green card."

DEPARTMENT OF MEDICINE

Information for Undergraduate Students

COLLEGE OF MEDICINE

Website: <https://med.fsu.edu>

Chair: Richard Nowakowski; **Professors:** Arbeitman, Delp, Diaz, Kabbaj, Kumar, Laywell, C. Lee, Levenson, Megraw, Mousa, Nowakowski, Olcese, Overton, Pinto, Ren, Stefanovic, Suo, Y. Wang, Zhou; **Associate Professors:** Bienkiewicz, Gunjan, Stanwood, Tomko, Y. Wang; **Assistant Professors:** Chelko, Crofts, Graham, Irianto, Nemec, Rizkallah, Y. Wang; **Eminent Scholar:** Bhide; **Research Faculty I:** Ducloot, Kao, Rodriguez; **Research Faculty II:** McCarthy; **Assistants in Medicine:** Connolly, Wu; **Associates in Research:** Foster, Vied, Y. Yang; **Senior Research Associate:** Bradley, Mercer

Department of Clinical Sciences-Chair: Jonathan Appelbaum; **Professors:** Applebaum, Chaet, Danforth, Douglas, Kroker-Bode, Lomax-Homier, Maitland, O'Keefe, Rahangdale, Sandroni, Sweeney, Watson, Wetherby; **Associate Professors:** Boyer, Bush, Delibasic, Drury, Kseri, Hamad, Speights, Stavros, Todd, Urrea; **Assistant Professor:** TBD; **Research Faculty I:** Daly Holland

Department of Family Medicine and Rural Health-Chair: Joedrecka Brown Speights; **Professors:** Brown Speights, Campbell, Falk, Gitu, Littles, McLeod; **Associate Professors:** Boyer, Bentze, Bernardo, Flowers, LaJoie, Quintero, Welch; **Assistant Professors:** Fleischer, Hellgren, Hogans-Mathews, Strong; **Instructional Specialist III:** Taite; **Assistant in Research:** De Leon

Department of Geriatrics-Chair: TBD; **Professors:** Gloth, Granville, Terracciano; **Associate Professors:** Mulrooney, Xan Nowakowski, Suchak; **Assistant Professors:** Kinsell, Mazumder, Ramdial, C Rust; **Associate in Research:** Baker

Department of Behavioral Sciences and Social Medicine-Chair: Heather Flynn; **Professors:** Balan, Flynn, Glueckauf, Harman, Kozel, Naar, Reyes, G. Rust, Sutin; **Associate Professors:** Ennis, Gabriel, Gerend, Hayes, MacDonnell, McQuirt, Nair-Collins, Pickett, Porter, Rosado; **Assistant Professors:** Dark, Goldfarb, Hou, Luchetti, Martinez-Hyde, McGooden, Mesidor, Rivera-Morales, Saunders, Taylor, Thompson; **Associate in Research:** Geletko; **Assistant in Research:** Bradbury, Green; **Senior Research Associate:** Keller Weiss; **Research Faculty I:** Graves, Pooler-Burgess, Stephens; **Research Faculty II:** Ghaffari, Johnson, Mills; **Instructional Specialist I:** Lamb, Ramirez; **Instructional Specialist II:** Fernandez

School of Physician Assistant Practice Associate Dean: Benjamin J. Smith; **Professor:** Cawley; **Associate Professor:** Bastin, Morgan, B. Smith; **Assistant Professors:** Beaver, Cole, Doyle, Elegeert, Justice, Powell, Saunders, Shipman, Verdoni

The Florida State University College of Medicine, in partnership with local communities, provides a four-year program of study leading to the Doctor of Medicine (MD) degree and a 27 month program of study leading to a Master of Science in Physician Assistant Practice. The college is fully accredited by the Liaison Committee on Medical Education of the Association of American Medical Colleges, the American Medical Association, and the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA). The mission of the College of Medicine is to educate and develop exemplary physicians and physician assistants who practice patient-centered health care, who discover and advance knowledge, and who are responsive to community needs, especially through service to elder, rural, and other medically underserved populations.

For complete details of degree requirements, plus a description of the college and its services, refer to the "College of Medicine" chapter of this *General Bulletin*.

GRADUATE DEPARTMENT OF MEDICINE

Opportunities in Graduate Medicine

COLLEGE OF MEDICINE

Website: <https://med.fsu.edu>

Chair: Richard Nowakowski; **Professors:** Arbeitman, Delp, Diaz, Kabbaj, Kumar, Laywell, C. Lee, Levenson, Megraw, Mousa, Nowakowski, Ostrander, Overton, Pinto, Ren, Stefanovic, Suo, Y. Wang, Zhou; **Associate Professors:** Bienkiewicz, Gunjan, Stanwood, Tomko, Y. Wang; **Assistant Professors:** Chelko, Crofts, Graham, Irianto, Nemec, Rizkallah, Y. Wang; **Eminent Scholar:** Bhide; **Research Faculty I:** Duclot, Kao, Nemec, Rodriguez; **Research Faculty II:** McCarthy; **Assistants in Medicine:** Connolly, Wu; **Associates in Research:** Foster, Vied, Y. Yang; **Senior Research Associate:** Bradley, Mercer;

Department of Clinical Sciences-Chair: Jonathan Appelbaum; **Professors:** Applebaum, Chaet, Danforth, Douglas, Kroker-Bode, Lomax-Homier, Maitland, O'Keefe, Rahangdale, Sandroni, Sweeney, Watson, Wetherby; **Associate Professors:** Boyer, Bush, Delibasic, Drury, Kseri, Hamad, Speights, Stavros, Todd, Urrea; **Assistant Professor:** N/A **Research Faculty I:** Daly Holland;

Department of Family Medicine and Rural Health-Chair: Joedrecka Brown Speights; **Professors:** Brown Speights, Campbell, Dunn, Falk, Gitu, Littles, McLeod; **Associate Professors:** Bentze, Bernardo, Flowers, LaJoie, Quintero, Welch; **Assistant Professors:** Fleischer, Hellgren, Hogans-Mathews, Strong; **Instructional Specialist III:** Taite; **Assistant in Research:** De Leon;

Department of Geriatrics-Chair: TBD; **Professors:** Gloth, Granville, Terracciano; **Associate Professors:** Mulrooney, Xan Nowakowski Suchak; **Assistant Professors:** Kinsell, Mazumder, Ramdial, C. Rust; **Associate in Research:** Baker;

Department of Behavioral Sciences and Social Medicine-Chair: Heather Flynn; **Professors:** Balan, Flynn, Glueckauf, Harman, Kozel, Naar, Reyes, G. Rust, Sutin; **Associate Professors:** Ennis, Gabriel, Gerend, Hayes, MacDonnell, McQuirt, Nair-Collins, Pickett, Porter, Rosado; **Assistant Professors:** Dark, Goldfarb, Hou, Luchetti, Martinez-Hyde, McGooden, Mesidor, Rivera-Morales, Saunders, Taylor, Thompson; **Associate in Research:** Geletko; **Research Faculty I:** Graves, Pooler-Burgess; **Research Faculty II:** Ghaffari, Johnson, Mills; **Instructional Specialist I:** Ramirez, Lamb; **Instructional Specialist II:** Fernandez;

School of Physician Assistant Practice Associate Dean: Benjamin J. Smith; **Professor:** Cawley; **Associate Professors:** Bastin, Morgan, B. Smith; **Assistant Professors:** Beaver, Cole, Doyle, Elegeert, Justice, Powell, Saunders, Shipman, Verdoni

For a complete listing of part-time clinical faculty, please visit the FSU College of Medicine website at <https://med.fsu.edu/directory/home>.

Doctor of Medicine (MD) Degree

Florida State University provides a four-year program of study leading to the Medical Doctor (MD) degree. The College trains students in allopathic medicine, which includes diagnosing, managing, and treating disease. Upon completion of the four-year MD educational program, physicians pursue graduate medical education (internship, residency, and sometimes fellowships). Training in residency programs may take from three to nine additional years after completion of medical school. The medical school curriculum provides a generalist education and focuses on practice in ambulatory settings, specifically to serve currently underserved populations, i.e., rural, inner city, minority, and geriatric patients in the state of Florida.

Fourth Year Electives

In the fourth year of study, the MD program offers a wide variety of electives to help students develop skills in their specific areas of study and practice. Electives are available in the fields of family medicine, geriatrics, internal medicine, obstetrics/gynecology, pediatrics, psychiatry, surgery and others. For a complete and current list of fourth-year electives, please visit our website at <https://med.fsu.edu/medicalEducation/syllabi>.

Honors Medical Scholars Program

The FSU College of Medicine in conjunction with the FSU Honors Office has established a program that is open annually to qualified students. The program allows eligible FSU honors students to pursue a Bachelor of Science degree of their choice while also participating in the Honors Medical Scholars Program, which includes a mentorship program, and required pre-medical courses and experiences. Students participating in the program may be eligible for early decision admission to the FSU College of Medicine upon completion of pre-med requirements. Applications and program details are available from the FSU Honors Office at (850) 644-1841.

DEPARTMENT OF MEDICINE

MS IN PHYSICIAN ASSISTANT PRACTICE

Master of Science in Physician Assistant Practice

The Florida State University Physician Assistant (PA) program is a seven term (27 months), 111 credit-hour program designed to train students to practice medicine as physician assistants as part of the Physician-PA Team. Upon completion, our graduates will receive the Master of Science in Physician Assistant Practice degree. The PA Program at FSU is extremely challenging with a strong emphasis in the biomedical sciences, simulation, and procedural skills. Although challenging, students will find a welcoming environment and an unrivaled network of support provided by an inter-professional team, who are committed to students' academic and professional success.

To complete the FSU College of Medicine PA program, a student must be judged by the PA Student Progress Committee to be in good standing, earn a "C" or better in each required course in the curriculum, have a 3.0 cumulative GPA at the time of graduation, and successfully complete all program-required patient encounters and all clinical/procedural skills.

Students must successfully complete all graduation requirements. The graduation requirements include the professionalism assessment survey, the PA competency self-assessment survey, and the summative evaluations, which include a comprehensive written examination and an Objective Structured Clinical Exam (OSCE) inclusive of clinical and technical skills assessments.

Students must also have completely paid all tuition, program, and campus fees.

DEPARTMENT OF MEDICINE

Graduate Biomedical Sciences

Graduate Biomedical Sciences

COLLEGE OF MEDICINE

Website: <https://med.fsu.edu/biosci/home>

Chair: Richard Nowakowski; **Professors:** Arbeitman, Diaz, Kabbaj, Kumar, Ledbetter, C. Lee, Levenson, Megraw, Nowakowski, Ostrander, Overton, Pinto, Ren, Stefanovic, Stover, Suo, Y. Wang, Zhou; **Associate Professors:** Bienkiewicz, Gunjan, Jia, Laywell, Mousa, Stanwood, Tomko, Y. Wang; **Assistant Professors:** Chelko, Graham, Irianto, Nemec, Rizkallah, Y. Wang; **Eminent Scholar:** Bhidé; **Research Faculty I:** Duclot, Kao, Rodriguez, Xie; **Research Faculty II:** McCarthy; **Assistants in Research:** Connolly, Wu; **Senior Associates in Research:** Mercer, Vied, Y. Yang;

The Department of Biomedical Sciences is a community of scholars dedicated to educating future physicians and scientists and advancing knowledge through discovery.

The PhD in Biomedical Sciences at the Florida State University College of Medicine is designed to train modern biomedical scientists who use genomics, proteomics, bioinformatics, and other contemporary approaches to address questions of developmental, cell, and molecular biology related to human health. The program is appropriate for students with majors in biochemistry, biology, or other health-related fields. We educate graduate students in scholarly, interdisciplinary approaches to conducting research from the molecular basis to systems-level approaches for the study of human disease, as well as the function of the human genome in aging, development, neuropathology, cancer, and other diseases. Research rotations during the first year allow students to make an informed choice regarding the research area and major professor with whom they will conduct their PhD work. A core curriculum of the fundamentals, the choice of electives from other departments, and intellectual interaction with faculty and postdoctoral fellows encourage graduate students to mature into independent scientists.

Admission Requirements

To apply for the PhD in Biomedical Sciences Program, students should visit the College of Medicine's Office of Research and Graduate Programs website (<https://med.fsu.edu/phd/home>). A prospective candidate must 1) have or be a candidate for a baccalaureate degree from an accredited college or university and be in good standing at the last institution attended, 2) have a minimum GPA of 3.0 (on a 4.0 scale), and 3) submit Graduate Record Examinations (GRE) scores. In place of a GRE score applicants may request a GRE waiver if all criteria are met. Applicants whose native language is not English and who have not received a degree from an English language institution are required to take the Test of English as a Foreign Language (TOEFL), receiving a minimum score of 80 on the Internet based (IB) test or 550 for the paper test. Applicants must also submit a statement of purpose, transcripts from all previous institutions, three letters of recommendation and a resume. Special admission consideration may be requested for students with disabilities. Applicants must also send all required material to the University Admission Office at <https://admissions.fsu.edu/gradapp>.

Degree Requirements

The College of Medicine grants the PhD in Biomedical Sciences through an interdisciplinary program with the goal of training students to conduct research in the broad area of the molecular basis of human disease, including the function of the human genome in development, neurobiology, neuroscience, aging, cancer, and other diseases.

The curriculum for the Biomedical Sciences degree includes specialized biomedical coursework, laboratory research, and courses in biostatistics and ethics in research. The direction and supervision of graduate work at the doctoral level resides primarily with the major professor and supervisory committee, which typically comprises a minimum of four faculty members. Laboratory rotation in at least three laboratories during the first year is a degree requirement, designed to assist students in making informed choices regarding their courses of study.

To be considered for graduation from the College of Medicine with the PhD in Biomedical Sciences, the student must successfully complete all course requirements within five calendar years from the time the student gains admittance to candidacy by passing the preliminary exam. Other requirements for graduation include attending the Health Science Seminar Series; successfully completing the preliminary doctoral examination; submitting a doctoral research proposal approved by the major professor and the supervisory committee after admission to doctoral candidacy; registering for a minimum of 24 credit hours of dissertation credit; and submitting, publicly presenting, and successfully defending a doctoral dissertation.

Additional details are available at <https://med.fsu.edu/phd/home>. Also, for complete details of degree requirements, plus a description of the college, its facilities, opportunities, and available financial assistance, refer to the "College of Medicine" chapter of this *Graduate Bulletin*.

Other Graduate Programs Related to Biomedical Sciences

Neuroscience

The Program in Neuroscience is an independent research and graduate training program which includes faculty from the departments of Biological Science, Biomedical Sciences, Mathematics, and Psychology. Its objective is to promote interdisciplinary basic research into neural processes, including the biological mechanisms underlying behavior, and to provide advanced graduate training leading to the PhD degree in Neuroscience.

Molecular Biophysics

The Molecular Biophysics Graduate Program (MOB) at FSU is an interdisciplinary program that unites nine departments and institutes (Biological Science; Biomedical Sciences; Chemical and Biomedical Engineering; Chemistry and Biochemistry; Computational Sciences; Materials Research and Technology; Mathematics; Physics; and Nutrition, Food and Exercise Sciences) across four Colleges (Arts and Sciences, Engineering, Human Sciences, and Medicine). The MOB program provides graduate training for a small number of highly motivated biology, physics, engineering, and chemistry students who are eager to take advantage of the interdisciplinary research environment provided by the Institute of Molecular Biophysics. The mission is to train students at all levels in a multi-disciplinary environment with the primary unifying theme being the use of biophysical, biochemical, and computational tools to study macromolecules and their assemblies.

DEPARTMENT OF MEDICINE

PhD IN BIOMEDICAL SCIENCES

Doctor of Philosophy (PhD) in Biomedical Sciences

The PhD in Biomedical Sciences program is designed to prepare the next generation of health scientists for medical research and teaching in an era of increasing coordination and integration of traditional disciplines. Undergraduate majors in biology, biochemistry, chemistry, microbiology, or other life sciences are suitable for graduate studies in biomedical sciences. Research rotations during the first year allow students to make an informed choice regarding the research area and major professor with whom they will conduct their PhD work. A core curriculum of the fundamentals, the choice of electives from other departments, and intellectual interaction with faculty and postdoctoral fellows encourage graduate students to mature into independent scientists. Graduates of the PhD in Biomedical Sciences program will be prepared to join the scientific workforce trained for careers in an interdisciplinary environment. Full information and course offerings within this program are available in the "Biomedical Sciences" chapter of this *Graduate Bulletin*.

For complete details on degree requirements, plus a description of the College, its facilities, opportunities, and available financial assistance, refer to the THE COLLEGE OF MEDICINE chapter.

DEPARTMENT OF MEDICINE

Undergraduate Biomedical Sciences

Undergraduate Biomedical Sciences

Website: <https://med.fsu.edu/biosci/home>

Website: <https://med.fsu.edu/biosci/home>

Chair: Richard Nowakowski; **Professors:** Arbeitman, Delp, Diaz, Kabbaj, Kumar, Laywell, C. Lee, Levenson, Megraw, Mousa, Nowakowski, Ostrander, Overton, Pinto, Ren, Stefanovic, Suo, Y. Wang, Zhou; **Associate Professors:** Bienkiewicz, Gunjan, Stanwood, Tomko, Y. Wang; **Assistant Professors:** Chelko, Crofts, Graham, Irianto, Nemec, Rizkallah, Y. Wang; **Eminent Scholar:** Bhide; **Research Faculty I:** Duclot, Kao, Rodriguez; **Research Faculty II:** McCarthy; **Assistants in Medicine:** Connolly, Wu; **Associates in Research:** Foster, Vied, Y. Yang; **Senior Research Associate:** Bradley, Mercer

Degrees Offered

The Department of Biomedical Sciences offers programs leading to the Bachelor of Science (BS) in Interdisciplinary Medical Sciences and the Doctor of Philosophy (PhD) in Biomedical Sciences.

The Interdisciplinary Medical Sciences (IMS) Bachelor of Science degree program is designed to prepare students for work in health care. Departments in seven Colleges at FSU have partnered to provide the curriculum for the program: College of Arts and Sciences, College of Communication and Information, Anne Spencer Daves College of Education, Health, and Human Sciences, College of Medicine, College of Nursing, College of Social Sciences and Public Policy, and the College of Social Work. The IMS degree is based on competencies thought to be fundamental for careers in the health professions. These competencies include communication skills, use and knowledge of technology, awareness and respect for the roles of members of the health care team, ability to navigate in the health care system, scientific knowledge, life-long learning skills, and critical thinking skills.

The Doctor of Philosophy (PhD) in Biomedical Sciences at the Florida State University College of Medicine is designed to train modern biomedical scientists who use genomics, proteomics, bioinformatics, and other contemporary approaches to address questions of developmental, cell, and molecular biology related to human health. The program is appropriate for students with majors in biochemistry, biology, or other health-related fields. Three broad areas of research are emphasized: development, neuroscience, and the molecular basis of human disease. Research rotations during the first year allow students to make an informed choice regarding the research area and major professor with whom they will conduct their PhD work. A core curriculum of the fundamentals, the choice of electives from other departments, and intellectual interaction with faculty and postdoctoral fellows encourage graduate students to mature into independent scientists.

Digital Literacy Requirement

Students must complete at least one course designated as meeting the Digital Literacy Requirement with a grade of "C-" or higher. Courses fulfilling the Digital Literacy Requirement must accomplish at least three of the following outcomes:

- Evaluate and interpret the accuracy, credibility, and relevance of digital information
- Evaluate and interpret digital data and their implications
- Discuss the ways in which society and/or culture interact with digital technology
- Discuss digital technology trends and their professional implications
- Demonstrate the ability to use digital technology effectively
- Demonstrate the knowledge to use digital technology safely and ethically

Each academic major has determined the courses that fulfill the Digital Literacy requirement for that major. Students should contact their major department(s) to determine which courses will fulfill their Digital Literacy requirement.

CoreFSU Curriculum Digital Literacy courses prepare students to critically understand and use digital resources and technologies in personal, professional, and societal contexts. This requirement is satisfied through BSC 2011L Biological Sciences II Lab course.

Oral Communication Competency

Students must demonstrate the ability to orally transmit ideas and information clearly. This requirement may be met with an approved college-level course.

State of Florida Common Program Prerequisites for Interdisciplinary Medical Sciences

The Florida Virtual Campus (FLVC) houses the statewide, internet-based catalog of distance learning courses, degree programs, and resources offered by Florida's public colleges and universities, and they have developed operational procedures and technical guidelines for the catalog that all institutions must follow. The statute governing this policy can be reviewed by visiting <https://www.flsenate.gov/Laws/Statutes/2021/1006.73>.

FLVC has identified common program prerequisites for the degree program in Interdisciplinary Medical Sciences. To obtain the most up-to-date, state-approved prerequisites for this degree, visit: <https://cpm.flvc.org/programs/183/237>.

Specific prerequisites are required for admission into the upper-division program and **must** be completed by the student at either a community college or a state university prior to being admitted to this program. **Students may be admitted into the University without completing the prerequisites but may not be admitted into the program.**

Interdisciplinary Medical Sciences (BS)

The mission of the **Interdisciplinary Medical Sciences (IMS) Program** is to educate students who aspire to enter a health profession. Students with an IMS major will earn a BS degree in Biomedical Sciences. The Interdisciplinary Medical Sciences (IMS) Bachelor of Science degree program is designed to provide a broad background to develop scientific and psychosocial knowledge, and an understanding of the health care team and the health care system. So that students may pursue their specialized and professional interests, three (3) interdisciplinary majors are offered: Clinical Professions; Community Patient Care; and Health Management, Policy and Information. The IMS degree program's rigorous science core curriculum, individualized advising, experiential service learning, and developmental seminar and capstone course sequence enable students to reach their potential academically and personally, determine a career path best suited for them, and develop the skills, attitudes, and acumen to attain their career goals.

The program includes three to four 1-credit hour experiential seminar courses that engage students with the challenges of health care in community, clinical, political, and research venues. The seminar sequence leads to a senior capstone course which requires the submission of a scholarly report and oral presentation describing the student's academic inquiry into a current health issue of interest. The capstone course meets the Scholarship in Practice and Upper Division Writing CoreFSU Curriculum requirements.

Resources are available to help students locate opportunities in clinics, community service organizations, hospitals, pharmacies, and physician offices for students to engage in the various ways health care is accessed. Students are required to obtain a minimum of 64 hours of experiential learning hours each academic year for a minimum total of 256 experiential learning hours before graduation. These hours must be approved by the Community Coordinator in advance.

Although housed in the College of Medicine, the curriculum is delivered by seven colleges at FSU. In addition to the College of Medicine, the College of Arts and Sciences, the College of Communication and Information, the Anne Spencer Daves College of Education, Health, and Human Sciences, the College of Nursing, the College of Social Sciences and Public Policy, and the College of Social Work are IMS degree program partners.

Curriculum guides stating specific degree requirements for the undergraduate majors are available through the Office of Undergraduate Programs and through our website: <https://med.fsu.edu/imsDegree/home>.

Minor Requirements

Students majoring in any of the IMS majors are not required to complete a minor for their IMS degree. The FSU Registrar does not recognize, certify, or document minors in any way on a transcript. Therefore, the IMS degree program will not certify, document, or clear minors for students.

The IMS program does not offer any minors.

Honors in the Major

Because health care is a broad field of study and practice and the IMS degree spans seven colleges and numerous departments, an Honors in the Major thesis can be completed in a variety of disciplines. The Honors in the Major topics must be health related and approved by the IMS Honors Director for the College of Medicine.

The Thesis Director for Honors in the Major must be full-time tenured or tenure-track FSU faculty member appointed in one of the FSU colleges approved for the IMS majors and meet the Thesis Director requirements of the University Honors Program.

Honors in the Major requires junior standing, a 3.2 GPA on at least 15 credit hours at FSU and all transfer work, and completion and defense of an honors thesis for 6 hours credit under the direction of a faculty committee. To graduate with honors is a worthwhile distinction. For more information, contact the IMS Honors Liaison, Dr. Elizabeth Foster, or the Honors Program office at (850) 644-1841.

Second Bachelor's Degree Requirements

Students admitted pursuing a second bachelor's degree are required to complete a minimum of 30 credit hours at FSU, including the State of Florida's civic literacy requirement, and any remaining major requirements. Second bachelor's degree-seeking students are not required to complete General Education courses again.

With regards to the Interdisciplinary Medical Science majors, second bachelor's degree-seeking students are permitted to use the pre-requisite and core requirements that were completed in a prior bachelor's degree for any requirement which can only be satisfied with one course, but any elective courses from a prior degree cannot be applied.

Interdisciplinary Medical Sciences Core Course Requirements (87–92 Hours)

All courses required for the IMS BS degree program must be completed with a grade of "C-" or better.

BSC 2010. *Biological Science I* (3)

BSC 2010L. *Biological Science I Laboratory* (1)

BSC 2011. *Biological Science II* (3)

BSC 2011L. Biological Science II Lab (1)
 CHM 1045. General Chemistry I (3)
 CHM 1045L. General Chemistry I Laboratory (1)
 CHM 1046. General Chemistry II (3)
 CHM 1046L. General Chemistry II Laboratory (1)
 CHM 3120. Analytical Chemistry I (3)
 CHM 3120L. Analytical Chemistry I Lab (1)
 IHS 1100. Exploring Health Professions (1)
 IHS 2121. Delivering Patient Care (1)
 IHS 3122. Introduction to Medical Sciences (1)
 IHS 3931. Problems and Issues in Health care (1)
 IHS 4501. Inquiry in Health care Research (1)
 IHS 4901. Interdisciplinary Medical Sciences Capstone Course (3)
 MAC 1105. College Algebra (3)
 MAC 1114. Analytic Trigonometry (3)
 MAC 1140. Precalculus Algebra (3)
 PHY 2053C. College Physics A (4)
 PHY 2054C. College Physics B (4)
 PSY 2012. General Psychology (3)

Organic Chemistry Sequences

Students must choose one of the following Organic Chemistry Sequences.

Organic Chemistry Option 1 (12 hours): Students thinking about Dental, Pharmacy, or Veterinary School will need to take this sequence.

CHM 2210. Organic Chemistry I (3).
 CHM 2211. Organic Chemistry II (3).
 CHM 2211L. Organic Chemistry II Laboratory (3).
 BCH 4053. General Biochemistry I (3).

Organic Chemistry Option 2 (eight hours): Recommended for students who have earned a B or higher in both CHM 1045/L and CHM 1046/L.

CHM 3217. One Semester Organic Chemistry (4).
 CHM 3217L. One Semester Organic Chemistry Laboratory (1).
 BCH 4053. General Biochemistry I (3).

Clinical Professions Major

The Clinical Professions major expands and develops the solid science foundation needed to apply to medical school, dental school, physician assistant programs, and a number of other health care professions that require post-baccalaureate training. A student's program-of-study in the Clinical Professions major is dependent upon the health profession the student wishes to enter. Whether it is medicine, dentistry, veterinary medicine, physician assistant, or another field, pre-requisites, although similar, are different for each program. Students will meet with advisors to develop their individual program-of-study according to the admissions exams and requirements of their respective program goals. Students are responsible for knowing the requirements of the professional schools where they plan to apply.

Clinical Professions Upper Division Major Electives (33 Hours)

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- 21 hours from both science and/or non-science electives from IMS approved lists

Clinical Professions Major Minimum Program Requirements - Summary

Total hours required: 120

- General Education: 36;
 - Prerequisite Coursework: 28;
 - Major Coursework: 59–64*;
 - Minor Coursework: 0
- Computer Skills Competency: zero hours beyond major
- Oral Communication Competency: 0–3

*24 to 27 hours of General Education, Prerequisite, and Major Coursework may overlap.

Community Patient Care Major

The Community Patient Care major prepares students to work directly with patients in a variety of venues, from health clinics to nonprofit respite providers. Students have five areas in which they can concentrate their studies: Medical Spanish Interpreter, Developmental Studies, Child Welfare Practice, Gerontology/Aging Studies, or Patient Health Navigation. Certificate programs are available for some of these options. Students do not receive a certificate for completing the courses required for the Community Patient Care major. To participate and earn the certificate options, students must consult with the home Colleges offering the certificates. Certificate programs have specific requirements beyond the requirements for the Community Patient Care major.

Community Patient Care Focus Options and Upper Division Major Electives (33 Hours)

Community Patient Care majors must complete the series of courses within one of the five focus options in the major. In addition to the Focus Option Requirements listed below, a student's program of studies must include at least six credits of upper-level science courses and six credits of upper-level non-science courses from the Major Electives List for a total of 33 hours of major electives.

Medical Spanish Interpreter Option

Prerequisites: SPN 3300 or SPN 3350, SPN 3400, and SPC 3210.

ADV 3410. Hispanic Marketing Communication (3).

OR

ADV 4411. Multicultural Marketing Communication (3).

OR

NSP 3185. Multicultural Factors and Health (3).

SPC 2730. Global Perspectives: Communication (3).

OR

SPC 4710. Interracial/Intercultural Communication (3).

OR

NSP 3185. Multicultural Factors and Health (3).

SPN 4036. Spanish Medical Interpreting (3).

SPN 4420. Advanced Spanish Composition and Translation (3).

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved lists

Total elective credits: 33 hours

Developmental Studies Option

EAB 3703. Applied Behavior Analysis (3).

OR

SPA 2001. Introduction to Communication Sciences and Disorders (3).

FAD 3220. Individual and Family Life Span Development (3).

OR

SOW 4602. Social Work in Health Settings (3).

Six credits from the following list:

ARE 4930. Special Topics in Art and Education (3).

ASL 2510. Deaf Culture (3).

CHD 2220. Child Growth and Development: The Foundation Years (3).

EAB 3703. Applied Behavior Analysis (3).

EDF 2085. Teaching Diverse Populations (3).

EEX 4201. Typical and Atypical Development and Learning (3).

EEX 4770. Study of Human Exceptionality (3).

FAD 2230. Family Relationships: A Life Span Development Approach (3).

FAD 3220. Individual and Family Life Span Development (3).

FAD 4601. Foundations of Counseling (3).

IDS 2321. The Blindness Experience (3).

MUY 4401. Music Therapy: Methods and Practicum I (3).

NSP 3185. Multicultural Factors and Health (3).

NSP 3425. Women's Health Issues: Concerns Through the Life Cycle (3).

SOW 4602. Social Work in Health Settings (3).

SOW 4615. Family Violence Across the Life Span (3).

SOW 4645. Gerontological Social Work (3).

SOW 4650. Child Welfare Practice (3).

SPA 2001. *Introduction to Communication Sciences and Disorders* (3).

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved list

Total elective credits: 33 hours

Child Welfare Practice Option

SOW 4615. *Family Violence across the Lifespan* (3).

SOW 4650. *Child Welfare Practice* (3).

SOW 4658. *Child Maltreatment and Child Welfare* (3).

SOW 4702. *Substance Abuse and Misuse* (3).

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved list

Total elective credits: 33 hours

Gerontology/Aging Studies Option

DEP 4404. *Psychology of Adult Development and Aging* (3).

OR

NSP 3425. *Women's Health Issues: Concerns Through the Life Cycle* (3).

SOW 4602. *Social Work in Health Settings* (3).

SOW 4645. *Gerontological Social Work* (3).

SYP 3730. *Aging and the Life Course* (3).

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved lists

Total elective credits: 33 hours

Patient Health Navigation Option

CLP 3305. *Clinical and Counseling Psychology* (3).

OR

NUR 3177. *Holistic and Complementary Approaches to Health and Healing* (3).

IHS 4123. *Narrative Medicine: Patient-Centered Care and the Individual Story* (3).

NUR 3076. *Communication in Health Care* (3).

OR

NSP 3185. *Multicultural Factors and Health* (3).

3 credits from the following list:

ECP 4530. *Economics of Health* (3)

PAD 4844. *Public Health and Emergency Management* (3)

PHC 4030. *Introduction to Epidemiology* (3)

PHC 4101. *Introduction to Public Health* (3)

PHC 4157. *Health Policy and Society* (3)

PHC 4470. *Health Behavior and Health Promotion* (3)

PUP 4604. *Health Services Organization and Policy* (3)

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved lists

Total elective credits: 33 hours

Community Patient Care Major Minimum Program Requirements - Summary

Total hours required: 120

- General Education: 36;
 - Prerequisite Coursework: 28;
 - Major Coursework: 59–64*;
 - Minor Coursework: 0
- Foreign Language: 0–12 (recommended, not required); Computer Skills Competency: zero hours beyond major
- Oral Communication Competency: 0–3

*24 to 27 hours of General Education, Prerequisite, and Major Coursework may overlap.

Health Management, Policy and Information Major

The Health Management, Policy and Information major prepares students for research or work in government, public health, and hospital and clinic administration and management. Students choose one of the two focus options; Health Information Technology or Public Health Administration and Policy. Health Management, Policy and Information majors must complete the series of courses within one of the two Focus Options in the major. Certificate programs are available for one of the options. Students do not receive a certificate for completing the courses required for the Health Management, Policy and Information major. In order to participate and earn the certificate options, students must consult with the home College offering the certificate.

Health Management, Policy and Information Major Electives (33 Hours)

Health Management, Policy and Information majors must complete the series of courses within one of the two focus options in the major. In addition to the Focus Option Requirements listed below, a student's program of studies must include at least six credits of upper-level science courses and six credits of upper-level non-science courses from the Major Electives List for a total of 33 hours of major electives.

Health Information Technology Option

IDS 3493. *Empowering Health Consumers in the eHealth era* (3).

OR

LIS 4772. *Introduction to Consumer Health Informatics* (3).

LIS 4776. *Advanced Health Informatics* (3).

LIS 4785. *Introduction to Health Informatics* (3).

NUR 3076. *Communication in Health Care* (3).

- six hours of science electives from IMS approved list
- six hours of non-science electives from IMS approved list
- nine hours from both science and/or non-science electives from IMS approved lists

Total elective credits: 33 hours

Public Health Administration & Policy Option

PHC 4030. *Introduction to Epidemiology* (3).

PUP 4604. *Health Services Organization & Policy* (3).

OR

ECP 4530. *Economics of Health* (3).

OR

PAD 4844. *Public Health and Emergency Management* (3).

OR

PHC 4101. *Introduction to Public Health* (3).

OR

PHC 4157. *Health Policy and Society* (3).

SYO 4402. *Medical Sociology* (3).

OR

PHC 4157. *Health Policy and Society* (3).

9 credits from the following list:

ECP 4530. *Economics of Health* (3).

GEO 4450. *Medical Geography* (3).

PAD 4372. *Leadership & Communication in Emergency Management* (3).

PAD 4833. *International and Comparative Disaster Management* (3).

PAD 4844. *Public Health and Emergency Management* (3).

PHC 4101. *Introduction to Public Health* (3).

PHC 4157. *Health Policy and Society* (3).

PHC 4470. *Health Behavior and Health Promotion* (3).

SYD 3020. *Population and Society* (3).

SYP 3730. *Aging and the Life Course* (3).

SYP 4062. *Sexual & Reproductive Health* (3).

SYA 3741. *Sociology of Death & Dying* (3).

SYA 4930 *Special Topics* [Only these Special Topics courses will be accepted: *Politics of Reproduction*] (3)]

- six hours of Science electives from IMS approved list
- six hours of non-Science electives from IMS approved list
- three hours from both science and/or non-science electives from IMS approved lists

Total elective credits: 33 hours

Health Management, Policy, and Information Major Minimum Program Requirements - Summary

Total hours required: 120

- General Education: 36;
 - Prerequisite Coursework: 28;
 - Major Coursework: 59–64*;
 - Minor Coursework: 0;
 - Computer Skills Competency: zero hours beyond major
- Oral Communication Competency: 0–3

*24 to 27 hours of General Education, Prerequisite, and Major Coursework may overlap.

IMS Major Elective Courses: Science and Non-Science

ANT 2410. *Introduction to Cultural Anthropology* (3)

ANT 2511. *Introduction to Physical Anthropology and Prehistory* (3)

ANT 4053. *One Health: Human, Animal, and Environmental Health in the Anthropocene* (3)

ANT 4462. *Introduction to Medical Anthropology* (3)

ANT 4468. *Bones, Bodies, & Disease* (3)

ANT 4525. *Human Osteology* (3)

ANT 4930. *Special Topics* [Only these *Special Topics* courses will be accepted: *Evolutionary Medicine* (3); *Global Health Cultures* (3)]

APK 2001. *Medical and Scientific Terminology* (3)

BCH 4054. *General Biochemistry II* (3)

BMS 4007. *Introduction to Molecular Medicine* (4)

BMS 4901r. *DIS in Biomedical Sciences* (1–4)

BMS 4932. *Special Topics in Biomedical Sciences* (1–3)

BMS 4XXX. *Ethics and Professionalism in Health care* (3)

BSC 2085. *Anatomy and Physiology I* (3)

BSC 2085L. *Anatomy and Physiology I Laboratory* (1)

BSC 2086. *Anatomy and Physiology II* (3)

BSC 2086L. *Anatomy and Physiology II Laboratory* (1)

BSC 4933r. *Special Topics in Biological Science* (3)

CHD 3243. *Contexts of Adolescent Development* (3)

CHM 4610. *Inorganic Chemistry* (3)

CHM 4610L. *Inorganic Chemistry Laboratory* (1)

CHM 4130. *Advanced Analytical Chemistry* (3)

CHM 4130L. *Advanced Analytical Chemistry Laboratory* (1)

CLP 3305. *Clinical and Counseling Psychology* (3)

CLP 4143. *Abnormal Psychology* (3)

ECP 4530. *Economics of Health* (3)

ENT 4622. *Biomedical Innovation and Entrepreneurship* (3)

FAD 2230. *Family Relationships: A Life Span Development Approach* (3)

FAD 3220. *Individual and Family Life Span Development* (3)

FAD 3343. *Contexts of Adult Development and Aging* (3)

FAD 4451. *Human Sexuality Education* (3)

FAD 4455. *Family Life Education* (3)

GEO 4450. *Medical Geography* (3)

HIS 3126. *Comics in Medicine* (3)

HIS 3491. *Medicine and Society* (3)

HSC 4711. *Wellness/Health Risk Reduction* (3)

HUN 3224. *Metabolism I* (3)

IDS 3493. *Empowering Health Consumers in the eHealth Era* (3)

IHS 4120. *Frontiers in Medicine* (3)

IHS 4123. *Narrative Medicine: Patient-Centered Care and the Individual Story* (3)

IHS 4210. *Future Challenges for Health care Providers* (3)

IHS 4932r. *Special Topics in Health Sciences and Health care* (1–3)

MCB 4403. Prokaryotic Biology (3)
 MCB 4403L. Prokaryotic Biology Laboratory (2)
 MHS 4001. The Human Services Profession (3)
 NUR 3053. Foundations of Lifestyle Medicine: Positive Habits for Optimal Health (3)
 NUR 3076. Communication in Health Care (3)
 PAD 4372. Leadership and Communication in Emergency Management (3)
 PAD 4833. International and Comparative Disaster Management (3)
 PAD 4844. Public Health and Emergency Management (3)
 PAS 2054. Introduction to the PA Profession (3)
 PCB 3063. General Genetics (3)
 PCB 3134. Cell Structure and Function (3)
 PCB 3743. Vertebrate Physiology (3)
 PCB 4024. Molecular Biology (3)
 PCB 4233. Immunology (3)
 PCB 4233L. Laboratory in Immunology (1)
 PCB 4253. Developmental Biology (3)
 PCB 4253L. Developmental Biology Laboratory (3)
 PCB 4701. Human Physiology (3)
 PET 3322. Functional Anatomy and Physiology I (3)
 PET 3322L. Functional Anatomy and Physiology Laboratory I (1)
 PET 3323C. Functional Anatomy and Physiology II (4)
 PET 4076. Physical Dimensions of Aging (4)
 PHZ 4702. Biomedical Physics I (3)
 PHZ 4703. Biomedical Physics II (3)
 PSB 2000. Introduction to Brain and Behavior (3)
 PSB 3004C. Physiological Psychology with Laboratory (4)
 PSY 4930r. Special Topics in Psychology (3) [Only this Special Topics course will be accepted: Industrial and Organizational Psychology]
 REL 3180. Religion and Bioethics (3)
 SOP 3004. Social Psychology (3)
 SOW 4935. Special Topics in Social Work (3) [Only this Special Topics course will be accepted: Treating Tobacco Dependency (3); Working with Families: An Interprofessional Perspective (3)]
 SYO 3100. Families and Social Change (3)
 SYO 4402. Medical Sociology (3)
 SYP 3000. Social Psychology of Groups (3)
 SYP 3730. Aging and the Life Course (3)
 URP 4936. Special Topics in Urban and Regional Planning (3) [Only this Special Topics course will be accepted: Healthy Cities, Healthy Communities]
 ZOO 3713C. Comparative Vertebrate Anatomy (4)
 ZOO 4753C. Histology (4)

DEPARTMENT OF MEDICINE

Medicine and Biomedical Sciences Courses Listing

Definition of Prefixes

BCC—Basic Clinical Clerkships

BMS—Basic Medical Sciences

BSC—Biological Sciences

ENT—Entrepreneurship

GMS—Graduate Medical Sciences

IHS—Interdisciplinary Health Sciences

ISC—Interdisciplinary

ISS—Interdisciplinary Social Sciences

MDE—Medical Electives

MDI—Medical Internships

MDR—Medical Research

MDU—Undergraduate Medicine Courses

MDX—Medical Externship

PAS—Physician Assistant

PHC—Public Health Concentration

PSB—Psychobiology

BCC

BCC 7112. Internal Medicine (6). This clerkship is designed to allow students to participate in the management of patients with common clinical presentations encountered in the general practice of internal medicine.

BCC 7113. Internal Medicine Sub-Internship (4). Prerequisite: Completion of 3rd year of medical school, including completion of M3 IM Clerkship. This clerkship allows students the opportunity to participate in the management of patients with common clinical presentations encountered in the practice of hospital-based internal medicine. Each student has the opportunity to experience a broad range of illness severities ranging from acute care upon presentation to the emergency department to life-threatening processes in the intensive care unit. Students also have the opportunity to improve their basic clinical skills, learn new inpatient procedures and examination techniques, and assess the effectiveness of their clinical interventions.

BCC 7130. Obstetrics/Gynecology Clerkship (6). This clinical clerkship is designed to acquaint the student with the varied aspects of medical care for women, with emphasis on acquiring the basic skills of gynecologic and obstetrical history-taking and physical examination, participating and assuming responsibility in the evaluation and care of outpatients and inpatients, and acquiring practical experience in the operating and delivery room areas.

BCC 7140. Pediatrics Clerkship (6). Prerequisite: Satisfactory completion of all year-one and year-two curricula. This pediatrics clerkship is a six-week learning experience with an emphasis on ambulatory pediatrics. Students learn under the supervision of clerkship faculty trained to teach in the clinical setting. Students interact with pediatric patients who present a variety of common pediatric diseases/conditions.

BCC 7150. Psychiatry Clerkship (6). Prerequisite: Satisfactory completion of all year-one and year-two curricula. In this course, students learn pathophysiology, diagnosis and management of common problems in mental health and psychiatry in hospital and out-patient settings.

BCC 7160. Surgery Clerkship (6). Prerequisite: Satisfactory completion of all year-one and year-two curricula. In this course, students learn pathophysiology, diagnosis, and management of common problems in general surgery, otolaryngology, orthopedics, OB/GYN, urology, and neurosurgery in hospital and out-patient settings.

BCC 7170r. Community Medicine (2). This two week course in the third year of the medical curriculum is designed to broaden students' understanding of the role played by community agencies in health promotion and disease prevention. Students are assigned to a community health agency where they work under the supervision of a preceptor to assist the agency in fulfilling its goals.

BCC 7174. Primary Care Geriatrics (4). Prerequisite: Satisfactory completion of all year-one, year-two, and year-three courses. This required fourth year clerkship provides varied primary care experiences with older adult patients. The major goal is to provide an in-depth exposure of the medical student to the intricacies, subtleties, barriers and obstacles to be overcome in providing quality primary care to older patients in the settings where that care most frequently occurs. Emphasis is placed on the physician's role in maintaining, restoring, and rehabilitating the older adult patient to achieve the most independent function possible. Consistent with a "school without walls" concept, students follow assigned patients in an effort to explore how continuous and coordinated geriatric care might be provided. Competency in the identification, evaluation and treatment of common geriatric problems and syndromes is pursued.

BCC 7175. Clerkship in Family Medicine (6). This community-based, ambulatory clerkship emphasizes the identification, evaluation and treatment of family practice patients with common medical, surgical and psychological conditions. Students in this course spend eight patient care sessions/week under supervision of the family physician in the office; complete two required clerkship projects; and utilize web-based self-directed learning activities.

BCC 7176. Family Medicine Sub-Internship (4). Prerequisite: Completion of all required third-year clerkships. Through this clerkship, students are exposed to an intense clinical experience in a family practice setting. The clerkship exposes students to patient populations located in rural areas and patients who are medically underserved. Students select one of two available options for the AFMC—a rural site or a family medicine residency program in Florida.

BCC 7180. Emergency Medicine (4). Prerequisite: Satisfactory completion of three years of medical school. In this course, students engage in appropriately directed patient history and physical exams, physical diagnoses, medical decision making, acquisition of procedural skills, and exposure to a broad base of undifferentiated patients with a wide variety of personal, social, and cultural issues that influence patient care. This environment places a premium on physical exam skills, diagnostic reasoning, recognition of life-threatening situations, and initiation of resuscitation in a wide range of diseases with varying degrees of urgency. Students are taught to appreciate the dynamic state of emergency medicine knowledge, the necessity for maintaining currency, and the means to do it.

BCC 7182. Doctoring 3 (6). Prerequisite: Satisfactory completion of all year-one and year-two curricula. This course enhances students' clinical knowledge and skills and provides them opportunities to explore issues that extend across all medical disciplines.

BCC 7201. Residency Preparation Boot Camp (4). This course provides didactic and hands-on activities that reinforce and demonstrate the graduating medical student's competency and preparedness to perform the core patient-care activities of an intern.

BMS

BMS 4007. Introduction to Molecular Medicine (4). Prerequisites: CHM 2210 and CHM 2211; or CHM 3217. This course introduces the concept of the main molecular mechanisms that mediate human health and disease and emphasizes molecular cell biology and immunology to understand human health and diseases, and the mechanisms that impact immune response such as inflammation and cancer. Students also participate in active learning, applying the knowledge they acquire in the lectures.

BMS 4401. Principles of Pharmacology and Toxicology (3). Prerequisites: BSC 2011, BSC 2011L, CHM 1046, CHM 1046L; junior standing. This course introduces students to the basic principles of pharmacology and toxicology. Students will develop an understanding of pharmacokinetics, pharmacodynamics, and pharmacogenomics. Students will also learn the different mechanisms of toxicity, how to monitor and assess risk of exposures, and how these exposures promote disease. Students will learn how both pharmacology and toxicology contribute to drug discovery and development.

BMS 4861. Multicultural Health Care and Health Disparities (3). This course reviews the impact of culture and ethnicity on health, illness, and health care practices. The course exposes students interested in a career in health care to the challenges of providing care to a multicultural society through exposure to theory, evidence-based practices, and self-exploration through service learning with an underserved population.

BMS 4901r. DIS in Biomedical Sciences (1-4). Prerequisite: Instructor permission. Corequisite: Must have a combined GPA of 3.0 in biology, chemistry, and physics coursework. This directed individual study course in biomedical sciences offers a unique opportunity for undergraduate students to perform research in the biomedical science laboratories in the College of Medicine. Students perform special supervised study or research in the area of the faculty member's research. An oral presentation and a final report of the research in the format of a short scientific publication is required. May be repeated to a maximum of 15 credit hours.

BMS 4901r. DIS in Biomedical Sciences (1-4). Prerequisite: Instructor permission. Corequisite: Must have a combined GPA of 3.0 in biology, chemistry, and physics coursework. This directed individual study course in biomedical sciences offers a unique opportunity for undergraduate students to perform research in the biomedical science laboratories in the College of Medicine. Students perform special supervised study or research in the faculty member's research. An oral presentation and a final report of the research in the format of a short scientific publication is required. May be repeated to a maximum of 15 credit hours.

BMS 4903r. Honors Work in Biomedical Sciences (1-3). Prerequisite: Admission to the FSU Honors in the Major Program and approved by the IMS Honors Liaison. This course involves participation in a supervised research problem. May be repeated to a maximum of nine credit hours. A maximum of nine research credit hours may count toward IMS degree upper division electives. This may be a combination of DIS and/or Honors Work. DIS and Honors Work in the Interdisciplinary Medical Sciences Program are letter graded.

BMS 4932r. Special Topics in Biomedical Sciences (1-3). Prerequisites: BSC 2011, CHM 1046, and PCB 3063; or instructor permission. This course teaches students to identify the intersection of the fields of biology and medicine with a focus on human health issues and demonstrate knowledge in areas such as biochemical functions, physiological functions, anatomical and histological structures, epidemiology of population groups, or pharmacology applications by delving into related cell and molecular biology, parasitology, and toxicology, found in biomedical research.

BMS 5081. Introduction to Clinical Ethics (2). This course explores the relationship between the respective views of moral significance, fundamental moral notions, and the resulting moral principles of several prominent ethical theories. The course discusses the relevance of these theories to the two primary ethical guidelines for clinicians: respect for autonomy and beneficence. Particular topics of ethical significance relevant to physicians in clinical practice, including the nature of the physician-patient relationship, shared decision making and informed consent, decision-making capacity, decisions by proxy/surrogate, advanced directives and DNARs, and end-of-life medical care are discussed.

BMS 5081. Introduction to Clinical Ethics (2). This course explores the relationship between the respective views of moral significance, fundamental moral notions, and the resulting moral principles of several prominent ethical theories. The course discusses the relevance of these theories to the two primary ethical guidelines for clinicians: respect for autonomy and beneficence. Particular topics of ethical significance relevant to physicians in clinical practice, including the nature of the physician-patient relationship, shared decision making and informed consent, decision-making capacity, decisions by proxy/surrogate, advanced directives and DNARs, and end-of-life medical care are discussed.

BMS 5082. Ethics in the Clinical Setting (4-6). Prerequisite: BMS 5081. This course covers issues relevant to end-of-life care, offers a survey of the various forms of limited consciousness/interaction, and addresses issues involving the physician-patient relationship, issues related to healthcare delivery, as well as ethical issues relevant to specific medical specialties.

BMS 6030r. Foundations of Medicine 2: Molecules to Mechanisms (5-13). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program or the FSU College of Medicine Bridge to Clinical Medicine major of the MS Program in Biomedical Sciences. This course covers fundamental concepts in three major areas basic to medicine: cellular structure and function, cell communication, and pharmacology. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences. Students incorporate this knowledge in understanding and treating patients as they learn to organize and perform a medical interview within the biopsychosocial model of health care. May be repeated to a maximum of 13 credit hours.

BMS 6030r. Foundations of Medicine 2: Molecules to Mechanisms (5-13). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program or the FSU College of Medicine Bridge to Clinical Medicine major of the MS Program in Biomedical Sciences. This course covers fundamental concepts in three major areas basic to medicine: cellular structure and function, cell communication, and pharmacology. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences. Students incorporate this knowledge in understanding and treating patients as they learn to organize and perform a medical interview within the biopsychosocial model of health care. May be repeated to a maximum of 13 credit hours.

BMS 6037r. Medicine I: Foundations (10-13). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine M.D. program or the FSU College of Medicine Bridge to Clinical Medicine major of the M.S. Program in Biomedical Sciences. This course introduces the biopsychosocial model of health care, integrating knowledge of basic, behavioral and clinical sciences for understanding and treating patients. The principles of the patient-centered clinical method provide the context for learning the physical exam, structure and function of the human body, basic diagnostic imaging, and analysis of ethical issues in medicine.

BMS 6037r. Medicine I: Foundations (10-13). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine M.D. program or the FSU College of Medicine Bridge to Clinical Medicine major of the M.S. Program in Biomedical Sciences. This course introduces the biopsychosocial model of health care, integrating knowledge of basic, behavioral and clinical sciences for understanding and treating patients. The principles of the patient-centered clinical method provide the context for learning the physical exam, structure and function of the human body, basic diagnostic imaging, and analysis of ethical issues in medicine.

BMS 6040r. Medicine 3 Human Systems in Health and Disease: Gastrointestinal System (6-8). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides core knowledge about the structure and function of the human gastrointestinal system and nutrition in health and disease across the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6040r. Medicine 3 Human Systems in Health and Disease: Gastrointestinal System (6-8). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides core knowledge about the structure and function of the human gastrointestinal system and nutrition in health and disease across the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6041r. Medicine 3 Human Systems in Health and Disease: Host-Defense (6-10). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course covers fundamental concepts of immunology, immunopathology and neoplasia. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6041r. Medicine 3 Human Systems in Health and Disease: Host-Defense (6-10). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course covers fundamental concepts of immunology, immunopathology and neoplasia. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6042r. Medicine 3 Human Systems in Health and Disease: Cardiovascular and Pulmonary Systems (10-12). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD Program. This course provides core knowledge about the structure and function of the human cardiovascular and respiratory systems in health and disease across the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6043r. Medicine 3 Human Systems in Health and Disease: Renal-Urinary System (8-10). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD Program. This course provides core knowledge about the structure and function of the human kidney and urinary system in health and disease across the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6043r. Medicine 3 Human Systems in Health and Disease: Renal-Urinary System (8-10). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD Program. This course provides core knowledge about the structure and function of the human kidney and urinary system in health and disease across the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6044r. Medicine 3 Human Systems in Health and Disease: Hematologic System (4-6). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides fundamental medical knowledge of the human hematologic system, with an emphasis on the recognition, diagnosis and treatment of the diseases and disorders that involve it over the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6044r. Medicine 3 Human Systems in Health and Disease: Hematologic System (4-6). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides fundamental medical knowledge of the human hematologic system, with an emphasis on the recognition, diagnosis and treatment of the diseases and disorders that involve it over the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6046Cr. Medicine 3 Human Systems in Health and Disease: Neuroscience: CNS and Behavior (10-12). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides a comprehensive overview of the structure and function of the human central nervous system, with emphasis on its role in cognition and behavior across the lifespan, in health and in neurological and psychiatric disease. Dissection laboratory sessions are included. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6046Cr. Medicine 3 Human Systems in Health and Disease: Neuroscience: CNS and Behavior (10-12). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides a comprehensive overview of the structure and function of the human central nervous system, with emphasis on its role in cognition and behavior across the lifespan, in health and in neurological and psychiatric disease. Dissection laboratory sessions are included. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6047r. Medicine 3 Human Systems in Health and Disease: Musculoskeletal and Integumentary Systems (4-6). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides an integrated overview of the structure and function of the human musculoskeletal and integumentary systems and the diseases and disorders that involve them over the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6047r. Medicine 3 Human Systems in Health and Disease: Musculoskeletal and Integumentary Systems (4-6). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course provides an integrated overview of the structure and function of the human musculoskeletal and integumentary systems and the diseases and disorders that involve them over the lifespan. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6060. Health Issues in Medicine II (2). (P/F grade only.) This course introduces health care, grounding in health policy, health reform, and patient safety. A great deal of attention is devoted to epidemiology and biostatistics, as well as research design, and preventive medicine. The critical appraisal of recent medical literature is also emphasized.

BMS 6637r. Human Systems in Health and Disease: Reproductive System (3-8). (P/F grade only.) This course provides core knowledge about the male and female reproductive systems in health and disease. The course integrates knowledge from across the traditional disciplines in basic, behavioral and clinical sciences and applies that knowledge in understanding and treating patients.

BMS 6800r. Medicine 4: Integrated Cases (12-14). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course focuses on the synthesis of knowledge and skills acquired throughout the previous blocks and clinical experiences and the further development of clinical reasoning. The course prepares the student to begin to contribute meaningfully to real patient care in the workplace during the clinical rotations in Years 3 and 4.

BMS 6800r. Medicine 4: Integrated Cases (12-14). (P/F grade only.) Prerequisite: Matriculation to FSU College of Medicine MD program. This course focuses on the synthesis of knowledge and skills acquired throughout the previous blocks and clinical experiences and the further development of clinical reasoning. The course prepares the student to begin to contribute meaningfully to real patient care in the workplace during the clinical rotations in Years 3 and 4.

BMS 6801Cr. Medicine 5: Pre-clerkship Preparation Boot Camp (8-10). (P/F grade only.) Prerequisites: Matriculation to FSU College of Medicine MD program. Students must have taken USMLE Step 1. This course provides students with opportunities to learn and practice basic procedural skills and tasks they use in a variety of health care settings during the clinical rotations in Years 3 and 4. The course prepares the student to begin to contribute meaningfully to real patient care from the first day of their first clerkship.

BMS 6801Cr. Medicine 5: Pre-clerkship Preparation Boot Camp (8-10). (P/F grade only.) Prerequisites: Matriculation to FSU College of Medicine MD program. Students must have taken USMLE Step 1. This course provides students with opportunities to learn and practice basic procedural skills and tasks they use in a variety of health care settings during the clinical rotations in Years 3 and 4. The course prepares the student to begin to contribute meaningfully to real patient care from the first day of their first clerkship.

BMS 6900r. Directed Individual Study in Biomedical and Clinical Sciences (2-9). (S/U grade only.) This course involves supervised individual study on selected topics. May be repeated to a maximum of 18 credit hours. May be repeated within the same term.

BMS 6900r. Directed Individual Study in Biomedical and Clinical Sciences (2-9). (S/U grade only.) This course involves supervised individual study on selected topics. May be repeated to a maximum of 18 credit hours. May be repeated within the same term.

BMS 6930. Special Topics in Medicine (2). (P/F grade only.) Prerequisite: Admission to the College of Medicine. Course topics may vary.

BMS 5183. Introduction to Biomedical Sciences Research I (3-4). Prerequisite: Students must be enrolled in the PhD program in Biomedical Sciences. This course is intended for first year doctoral students in Biomedical Sciences to develop a foundation in the theoretical and practical skills necessary for successful completion of a doctoral degree in the program.

BMS 5184. Introduction to Biomedical Sciences Research II (1-2). Prerequisites: Students must be in the PhD program in Biomedical Sciences. This course is intended for first year doctoral students in Biomedical Sciences to develop a foundation in the theoretical and practical skills necessary for successful completion of a doctoral degree in the program.

BMS 5185r. Research Opportunities in Biomedical Sciences (1-4). (S/U grade only.) Prerequisite: Admission to the Biomedical Sciences graduate program. This course provides entering students in the PhD Program in Biomedical Sciences opportunities to be informed of and receive training in research by rotating through the laboratories of several individual faculty members in the department. Students must complete three laboratory rotations. Students should register for two credit hours for each seven week rotation. May be repeated to a maximum of eight credit hours. May be repeated within the same term.

BMS 5185r. Research Opportunities in Biomedical Sciences (1-4). (S/U grade only.) This course provides entering students in the PhD Program in Biomedical Sciences opportunities to be informed of and receive training in research by rotating through the laboratories of several individual faculty members in the department. Students must complete three laboratory rotations. Students should register for two credit hours for each seven week rotation. May be repeated to a maximum of eight credit hours. May be repeated within the same term.

BMS 5186C. Research Techniques in Biomedical Sciences (2-4). This is an advanced laboratory course for students in the PhD Program in Biomedical Sciences, providing training in laboratory techniques and experimental approaches essential to contemporary molecular biology and biochemistry research.

BMS 5186C. Research Techniques in Biomedical Sciences (2-4). This is an advanced laboratory course for students in the PhD Program in Biomedical Sciences, providing training in laboratory techniques and experimental approaches essential to contemporary molecular biology and biochemistry research.

BMS 5525. Bioregulation (4). Prerequisite: PCB 5595. This course is an advanced, lecture-based course emphasizing the molecular basis of regulation in biological systems. An important component is the study of the design and interpretation of experiments leading to understanding of regulation of gene expression. The course relies on contemporary research literature and focuses on specific model organisms and current problems that illustrate experimental approaches used to investigate different aspects of the control of gene expression.

BMS 5525. Bioregulation (4). Prerequisite: PCB 5595. This course is an advanced, lecture-based course emphasizing the molecular basis of regulation in biological systems. An important component is the study of the design and interpretation of experiments leading to understanding of regulation of gene expression. The course relies on contemporary research literature and focuses on specific model organisms and current problems that illustrate experimental approaches used to investigate different aspects of the control of gene expression.

BMS 5905r. Directed Independent Study in Biomedical Sciences (1-12). (S/U grade only.) Prerequisite: Admission to the Biomedical Sciences graduate program. This is an individualized research course intended for students in the PhD Program in Biomedical Sciences prior to passing the Preliminary Doctoral Examination. May be repeated to a maximum of 54 credit hours. May be repeated within the same term.

BMS 5905r. Directed Independent Study in Biomedical Sciences (1-12). (S/U grade only.) This is an individualized research course intended for students in the PhD Program in Biomedical Sciences prior to passing the Preliminary Doctoral Examination. May be repeated to a maximum of 54 credit hours. May be repeated within the same term.

BMS 5931r. Graduate Tutorial in Biomedical Sciences (1). (S/U grade only.) This course involves selected topics in contemporary Biomedical Sciences along with reading and analysis of primary literature. May be repeated for a total of fifteen semester hours within the same term. Topics to be covered will address questions of developmental, cell and molecular biology related to human health.

BMS 6936r. Seminar in Biomedical Sciences (1-2). (S/U grade only.) This course is a seminar series in current topics in biomedical sciences. May be repeated to a maximum of 16 credit hours. May be repeated within the same term.

BMS 6936r. Seminar in Biomedical Sciences (1-2). (S/U grade only.) This course is a seminar series in current topics in biomedical sciences. May be repeated to a maximum of 16 credit hours. May be repeated within the same term.

BMS 6940. Internship/Practicum/Clinical Practice (1). (P/F grade only.) BMS6015,PY;** This is a clinically intensive practicum experience for first-year medical students. Students spend three weeks in approved rural, urban, or geriatric facilities where they participate in supervised patient care.

BMS 6960r. USMLE Step 1 Preparation (1-6). (P/F grade only.) This course allows time, faculty support, and resources for adequate preparation for the USMLE Step 1 exam through self-directed learning. The course includes a high stakes clinical skills exam that demonstrates preparedness to advance to the clinical clerkships. May be repeated to a maximum of six credit hours.

BMS 6960r. USMLE Step 1 Preparation (1-6). (P/F grade only.) This course allows time, faculty support, and resources for adequate preparation for the USMLE Step 1 exam through self-directed learning. The course includes a high stakes clinical skills exam that demonstrates preparedness to advance to the clinical clerkships. May be repeated to a maximum of six credit hours.

BMS 7662r. Pathology and Basic Laboratory Medicine (4).

BMS 7663r. Anatomic Pathology (2-4).

BMS 7669r. Pathology Practice in the Community Setting (4).

BMS 7680r. Medical Externship in Pathology-Anatomic and Clinical (2-9).

BSC

BSC 5900r. Directed Individual Study (1-12). (S/U grade only.)

BSC 5900r. Directed Individual Study (1-12). (S/U grade only.)

BSC 5936r. Selected Topics in Biological Science (1-4). May be repeated to a maximum of 16 credit hours within the same term.

BSC 5936r. Selected Topics in Biological Science (1-4). May be repeated to a maximum of 16 credit hours within the same term.

ENT

ENT 5627. Healthcare Innovation and Medical Entrepreneurship (3). This course provides training in the leadership of innovation in patient care delivery. The course allows students to develop and deploy patient-centered solutions that create value by improving both quality and efficiency in their systems and communities.

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GMS

GMS 5006. Principles of Animal Experimentation (3). This course provides didactic and practical skill development in the use of laboratory animals in experimental research.

GMS 5095r. Modeling Human Disease (3). This is an advanced biomedical sciences course for PhD students or upper-level undergraduate students. This course involves lectures and student-driven presentation and discussion. Students learn how to critically evaluate the scientific literature and how to use model systems for experimental research. May be repeated to a maximum of six credit hours. May be repeated within the same term.

GMS 5095r. Modeling Human Disease (3). This is an advanced biomedical sciences course for PhD students or upper-level undergraduate students. This course involves lectures and student-driven presentation and discussion. Students learn how to critically evaluate the scientific literature and how to use model systems for experimental research. May be repeated to a maximum of six credit hours. May be repeated within the same term.

GMS 5098. Critical Review of the Scientific Literature (1-2). (S/U grade only.) This course is an advanced biomedical sciences course for PhD students. This course revolves around student-driven presentations and discussions of primary research literature. Students learn how to evaluate the scientific literature in their own field. Issues such as authorship, funding sources, citation index, journal quality, etc., are introduced as criteria for judgment.

GMS 5098. Critical Review of the Scientific Literature (1-2). (S/U grade only.) This course is an advanced biomedical sciences course for PhD students. This course revolves around student-driven presentations and discussions of the primary research literature. Students learn how to evaluate the scientific literature in their own field. Issues such as authorship, funding sources, citation index, journal quality, etc., are introduced as criteria for judgment.

GMS 5146r. The Immune Response to Infection and Cancer (3). Prerequisites: BMS 5525, PCB 5137, and PCB 5595. This course is an advanced biomedical sciences course for graduate students to introduce the recent developments in the immune response to virus infection and cancer. The course involves lectures and student-driven presentation and discussion. May be repeated to a maximum of six credit hours.

GMS 5146r. The Immune Response to Infection and Cancer (3). Prerequisites: BMS 5525, PCB 5137, and PCB 5595. This course is an advanced biomedical sciences course for graduate students to introduce the recent developments in the immune response to virus infection and cancer. The course involves lectures and student-driven presentation and discussion. May be repeated to a maximum of six credit hours.

GMS 5303. Molecular Mechanism of Common Human Diseases (3). This course introduces modern biomedical research to the graduate students. The students gain general knowledge of the most common human diseases and their molecular pathology. In addition, the attempts to find the cure and the challenges that lay ahead are discussed.

GMS 5303. Molecular Mechanism of Common Human Diseases (3). This course introduces modern biomedical research to the graduate students. The students gain general knowledge of the most common human diseases and their molecular pathology. In addition, the attempts to find the cure and the challenges that lay ahead are discussed.

GMS 5700. Developmental Neuroscience (3). This course focuses on the development of the mammalian brain with special attention to issues related to human brain disorders and diseases.

GMS 5869. Exploiting Biomedical Databases with Python (3). This course provides skill development in using Python to analyze biomedical data. No previous knowledge of Python or programming is required.

GMS 6001r. Special Topics in Biomedical Sciences (1-3). This course focuses on recent advances and outlooks in biomedical science research. Course offerings include but are not limited to such topics as aging, biotechnology, bioinformatics, developmental biology, genomics and proteomics, molecular signaling, neuroscience, and physiology. The general emphasis is on the molecular, genetic and cell biology aspects of these topics. May be repeated to a maximum of sixteen credit hours. May be repeated within the same term.

GMS 6001r. Special Topics in Biomedical Sciences (1-3). This course focuses on recent advances and outlooks in biomedical science research. Course offerings include but are not limited to such topics as aging, biotechnology, bioinformatics, developmental biology, genomics and proteomics, molecular signaling, neuroscience, and physiology. The general emphasis is on the molecular, genetic and cell biology aspects of these topics. May be repeated to a maximum of sixteen credit hours. May be repeated within the same term.

GMS 6003. Professional and Career Development for the Biomedical Sciences (3). Prerequisite: admission to graduate program This career development course is designed to equip students with the professional skills they will need to complement their ongoing laboratory training and to prepare them for the transition to the next phase of their careers. Students are exposed to different aspects of research-related topics, which will benefit their thesis studies as well as their career development following graduation.

GMS 6083. Microscopy Image Processing and Quantification (2). The course is designed for students with projects that involve microscopy and are required to do image processing, as well as students with image processing problems who may join the class to troubleshoot their problem. The course is biologically oriented but can be adapted to other applications in the course's goal of understanding the basic principle of microscopy images and image processing.

GMS 6230. Bioinformatics 101 for Next Generation Sequencing (3). The workshop-based course is designed for students with biological background and limited programming experience to start bioinformatic analysis of next generation sequencing and for students with computational background to gain exposure to biological systems. Students are introduced to next generation sequencing, cluster computing, basic command line tools, and R for analyzing sequencing data.

GMS 6241. Proteomics and Metabolomics (3). The primary objective of this course is to familiarize participants with principles and current best practices in mass spectrometry-based proteomics and metabolomics workflows with an emphasis on analysis and interpretation of mass spectrometric data.

GMS 6955. Presentation Skills in Biomedical Sciences (2). (S/U grade only.) Prerequisite: Admission to a graduate program at Florida State University. This is a seminar-based course in which graduate students present multiple short seminars on current research on topics developed under the guidance of faculty members. Students develop strong presentation skills while presenting their scientific work to various audiences.

IHS

IHS 4904r. Directed Individual Study in Health Sciences (1-4). This course is for undergraduate students who wish an individualized research experience in the Medical Humanities and Social Sciences, Public Health, or other fields represented in the College of Medicine. Students receive training in research methods and improve their readiness for and appreciation of research in health-related science.

IHS 4904r. Directed Individual Study in Health Sciences (1-4). This course is for undergraduate students who wish an individualized research experience in the Medical Humanities and Social Sciences, Public Health, or other fields represented in the College of Medicine. Students receive training in research methods and improve their readiness for and appreciation of research in health-related science.

IHS 4943. Medical Interpreter Practicum (9). (S/U grade only.) Prerequisites: ADV 3410, BMS 4861, SPC 4710, SPN 4420, and SPN 4930. This course is a supervised internship at a College of Medicine clinical site. Students work with healthcare providers providing translation services between patients and healthcare providers.

IHS 4943. Medical Interpreter Practicum (9). (S/U grade only.) Prerequisites: ADV 3410, BMS 4861, SPC 4710, SPN 4420, and SPN 4930. This course is a supervised internship at a College of Medicine clinical site. Students work with healthcare providers providing translation services between patients and healthcare providers.

IHS 1100. Exploring Health Professions (1). IHS 1100 Prerequisite: IMS major status This seminar informs students on careers and career pathways in health professions and the academic, professional, and personal preparation needed to pursue a career in health. Class meetings, activities, and guest speakers are planned to inform students on healthcare and the health professions, knowledge of the various roles of the healthcare team, and the resources to help students explore their career interests and goals.

IHS 2121. Delivering Patient Care (1). IHS 2121 Prerequisites: IHS 1100 (C- or better) and IMS major status This seminar course informs students on careers and career pathways in health professions and the academic, professional, and personal preparation needed to pursue a career in health with a focus on the patient or recipients of health care services. Class meetings, activities, and guest speakers are planned to inform students on healthcare and the health professions with respect to the populations served, knowledge of the various roles of the healthcare team, and the resources to help students explore their career interests and goals.

IHS 3122. Introduction to Medical Sciences (1). IHS 3122 Prerequisite: IMS major status For this course, students identify a health care setting and a particular issue in the health professions to explore through shadowing, visits, or volunteer work. This seminar provides students information on critical issues in healthcare, health professions, various roles of the healthcare team, and includes activities that help students explore their career interests and goals and identify and articulate personal motivations for pursuing a healthcare career.

IHS 3126. Comics and Medicine (3). Prerequisites: ENC 1101 and ENC 1102, or ENC 2135. Other English courses totaling six (6) credit hours in which the student is required to demonstrate college-level English skills through multiple assignments may also be accepted. This course examines comics and graphic novels that address issues of illness, disability, and medicine from various perspectives. Students probe how the sequentialized hybrid of word and image brings new insights to clinical experiences, as well as study the value of the graphic form as a communication and critical thinking tool that can be applied to a number of fields in healthcare and beyond.

IHS 3931. Problems and Issues in Healthcare (1). IHS 3931 Prerequisites: IHS 2121 (C- or better) or IHS 3122 (C- or better) and IMS major status In this course, students build upon experiential learning opportunities and further their understanding of key issues facing healthcare, patients, providers, institutions, and communities by examining and reading scholarly works. Assignments and activities help students to identify and generate content (through research or hands-on experiences that emphasize a breadth or depth of knowledge in the field) to serve as the foundation for future research on a problem or issue in healthcare.

IHS 4120. Frontiers in Medicine (3). This course aims to provide advanced undergraduate students the opportunity to gain an understanding of common human disease conditions through a highly interactive set of learning activities. We recommend that students have taken physiology, genetics and biochemistry. Examples of topics covered include heart failure, cancer, diabetes, depression and Alzheimer's disease.

IHS 4120. Frontiers in Medicine (3). This course aims to provide advanced undergraduate students the opportunity to gain an understanding of common human disease conditions through a highly interactive set of learning activities. We recommend that students have taken physiology, genetics and biochemistry. Examples of topics covered include heart failure, cancer, diabetes, depression and Alzheimer's disease.

IHS 4123. Narrative Medicine: Patient-Centered Care and the Individual Story (3). Prerequisites: ENC 1101, and one of the following courses; ENC1102 or ENC2135, for a total of six credits of English. In this course, students learn the tenets of narrative medicine and explore the role of narrative in improving clinician understanding of the individual patient's unique experience. To build narrative skill, students will analyze and interpret various illness experiences as depicted in select stories, poems, and non-fiction medical narratives.

IHS 4210. Future Challenges for Healthcare Providers (3). Prerequisite: Junior standing. In this course students explore challenges that will alter the environment they will step into as future healthcare providers. These challenges include a rapidly aging society, the impact of big data, global warming, changes in health care delivery systems, and the ethical implications of new technologies. This course encourages students to form their own rational approach to the analysis of complex societal issues affecting their chosen profession.

IHS 4501. Inquiry in Healthcare Research (1). IHS 4501 Prerequisites: IHS 3931 (C- or better) and IMS major status in this course, students research and draft an initial prospectus for their senior capstone project to include stakeholders, literature review, descriptions and goals of the project, and a research question. Students work directly with Interdisciplinary Medical Sciences faculty, faculty in affiliated FSU academic units, and/or preceptors in the field to identify and design the capstone project.

IHS 4900r. Honors Work in Health Sciences (1-3). Prerequisite: Admission to the FSU Honors in the Major Program and approval by the IMS Honors Liaison. This course involves participation in a supervised research problem. May be repeated to a maximum of nine semester hours. A maximum of nine research credit hours may count toward IMS degree upper division electives. This may be a combination of DIS and/or Honors Work. DIS and Honors Work in the Interdisciplinary Medical Sciences Program are letter graded.

IHS 4901. Interdisciplinary Medical Sciences Capstone Course (3). IHS 4901 Prerequisites: IHS 4501 (C- or better) and IMS major status In this course, students develop research and analytical skills in relation to a selected topic based upon healthcare experiences and interactions in their experiential venues. This aims to enhance further career advancement and employability. Students conduct a small-scale research project and submit by the end of the course a Capstone project report and presentation, summarizing their analysis of the literature, project methodology, and study findings.

IHS 4904r. Directed Individual Study in Health Sciences (1-4). This course is for undergraduate students who wish an individualized research experience in the Medical Humanities and Social Sciences, Public Health, or other fields represented in the College of Medicine. Students receive training in research methods and improve their readiness for and appreciation of research in health-related science.

IHS 4904r. Directed Individual Study in Health Sciences (1-4). This course is for undergraduate students who wish an individualized research experience in the Medical Humanities and Social Sciences, Public Health, or other fields represented in the College of Medicine. Students receive training in research methods and improve their readiness for and appreciation of research in health-related science.

IHS 4932r. Special Topics in Health Sciences and Health Care (1-3). This course provides students instruction in the health sciences such as healthcare disparity, patient-centered care, and other topics necessary to understand the healthcare system and patient care issues.

IHS 1100. Exploring Health Professions (1). IHS 1100 Prerequisite: IMS major status This seminar informs students on careers and career pathways in health professions and the academic, professional, and personal preparation needed to pursue a career in health. Class meetings, activities, and guest speakers are planned to inform students on healthcare and the health professions, knowledge of the various roles of the healthcare team, and the resources to help students explore their career interests and goals.

IHS 2121. Delivering Patient Care (1). IHS 2121 Prerequisites: IHS 1100 (C- or better) and IMS major status This seminar course informs students on careers and career pathways in health professions and the academic, professional, and personal preparation needed to pursue a career in health with a focus on the patient or recipients of health care services. Class meetings, activities, and guest speakers are planned to inform students on healthcare and the health professions with respect to the populations served, knowledge of the various roles of the healthcare team, and the resources to help students explore their career interests and goals.

IHS 3122. Introduction to Medical Sciences (1). IHS 3122 Prerequisite: IMS major status For this course, students identify a health care setting and a particular issue in the health professions to explore through shadowing, visits, or volunteer work. This seminar provides students with information on critical issues in healthcare, health professions and the various roles of the healthcare team. It includes activities that help students explore their career interests and goals and identify and articulate personal motivations for pursuing a healthcare career.

IHS 3126. Comics and Medicine (3). Prerequisites: ENC 1101 and ENC 1102, or ENC 2135. Other English courses totaling six credit hours in which the student is required to demonstrate college-level English skills through multiple assignments may also be accepted. This course examines comics and graphic novels that address issues of illness, disability, and medicine from various perspectives. Students probe how the sequentialized hybrid of word and image brings new insights to clinical experiences, as well as study the value of the graphic form as a communication and critical thinking tool that can be applied to a number of fields in healthcare and beyond.

IHS 3931. Problems and Issues in Healthcare (1). IHS 3931 Prerequisites: IHS 2121 (C- or better) or IHS 3122 (C- or better) and IMS major status In this course, students build upon experiential learning opportunities and further their understanding of key issues facing healthcare, patients, providers, institutions, and communities by examining and reading scholarly works. Assignments and activities help students to identify and generate content (through research or hands-on experiences that emphasize a breadth or depth of knowledge in the field) to serve as the foundation for future research on a problem or issue in healthcare.

IHS 4120. Frontiers in Medicine (3). This course aims to provide advanced undergraduate students with the opportunity to gain an understanding of common human disease conditions through a highly interactive set of learning activities. We recommend that students have taken physiology, genetics and biochemistry. Examples of topics covered include heart failure, cancer, diabetes, depression and Alzheimer's disease.

IHS 4123. Narrative Medicine: Patient-Centered Care and the Individual Story (3). Prerequisites: ENC 1101, and one of the following courses; ENC1102 or ENC2135, for a total of six credits of English. In this course, students learn the tenets of narrative medicine and explore the role of narrative in improving clinician understanding of the individual patient's unique experience. To build narrative skill, students will analyze and interpret various illness experiences as depicted in select stories, poems, and non-fiction medical narratives.

IHS 4210. Future Challenges for Healthcare Providers (3). Prerequisite: Junior standing. In this course students explore challenges that will alter the environment they will step into as future healthcare providers. These challenges include a rapidly aging society, the impact of big data, global warming, changes in health care delivery systems, and the ethical implications of new technologies. This course encourages students to form their own rational approach to the analysis of complex societal issues affecting their chosen profession.

ISS 4304. Contemporary Social Problems and Integrative Solutions (3). This course uses multiple and interrelated perspectives to identify and explore social issues and problems. Students are guided through the process of building interdisciplinary perspectives to maximize cognitive skills, critical thinking, and problem solving skills.

IHS 4501. Inquiry in Healthcare Research (1). IHS 4501 Prerequisites: IHS 3931 (C- or better) and IMS major status in this course, students research and draft an initial prospectus for their senior capstone project to include stakeholders, literature review, descriptions and goals of the project, and a research question. Students work directly with Interdisciplinary Medical Sciences faculty, faculty in affiliated FSU academic units, and/or preceptors in the field to identify and design the capstone project.

IHS 4900r. Honors Work in Health Sciences (1-3). Prerequisite: Admission to the FSU Honors in the Major Program and approval by the IMS Honors Liaison. This course involves participation in a supervised research problem. May be repeated to a maximum of nine semester hours. A maximum of nine research credit hours may count toward IMS degree upper division electives. This may be a combination of DIS and/or Honors Work. DIS and Honors Work in the Interdisciplinary Medical Sciences Program are letter graded.

IHS 4901. Interdisciplinary Medical Sciences Capstone Course (3). IHS 4901 Prerequisites: IHS 4501 (C- or better) and IMS major status In this course, students develop research and analytical skills in relation to a selected topic based upon healthcare experiences and interactions in their experiential venues. This aims to enhance further career advancement and employability. Students conduct a small-scale research project and submit by the end of the course a Capstone project report and presentation, summarizing their analysis of the literature, project methodology, and study findings.

IHS 4904r. Directed Individual Study in Health Sciences (1-4). This course is for undergraduate students who wish individualized research experience in the Medical Humanities and Social Sciences, Public Health, or other fields represented in the College of Medicine. Students receive training in research methods and improve their readiness for and appreciation of research in health-related science.

IHS 4932r. Special Topics in Health Sciences and Health Care (1-3). This course provides students instruction in the health sciences such as healthcare disparity, patient-centered care, and other topics necessary to understand the healthcare system and patient care issues.

IHS 5503r. Qualifying Exam Part 2 - Proposal Defense (1). (S/U grade only.) This course is individualized instruction for graduate students in the College of Medicine in the development of a dissertation proposal or other proposals, including the strategies, process and requirements that meet the standards for written project proposals in medical research.

IHS 5503r. Qualifying Exam Part 2 - Proposal Defense (1). (S/U grade only.) This course is individualized instruction for graduate students in the College of Medicine in the development of a dissertation proposal or other proposals, including the strategies, process and requirements that meet the standards for written project proposals in medical research.

IHS 5515. Ethics and Professional Integrity in Research (1). (S/U grade only.) This is a required course for students in the PhD Program in Biomedical Sciences. This course provides a survey of three broad areas of research ethics: issues raised by using animals in research, using people in research, and by the scientific method itself. The course presents examples of ethical decisions faced in medical research, including ascribing credit for contributions in publications, consequences of plagiarism and fraudulent data, access to genetic data, confidentiality, institutional review boards and considerations in research involving animal or human subjects.

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IHS 5905r. Directed Individual Study in Health Sciences (1-12). (S/U grade only.) This is a course for graduate students who desire an individualized research experience in Biomedical Sciences, Medical Humanities and Social Sciences, Public Health or other fields represented in the College of Medicine. Students receive laboratory or other training in research methods and improve their readiness for and appreciation of research in health-related science. May be repeated to a maximum of 36 credit hours. May be repeated within the same term.

IHS 5905r. Directed Individual Study in Health Sciences (1-12). (S/U grade only.) This is a course for graduate students who desire an individualized research experience in Biomedical Sciences, Medical Humanities and Social Sciences, Public Health or other fields represented in the College of Medicine. Students receive laboratory or other training in research methods and improve their readiness for and appreciation of research in health-related science. May be repeated to a maximum of 36 credit hours. May be repeated within the same term.

IHS 5935r. Health Sciences Seminar (1). (S/U grade only.) This is a seminar program for students in the PhD Program in Biomedical Sciences and other health-related programs. Biomedical Sciences students are required to enroll each Fall and Spring term. May be repeated to a maximum of 12 credit hours. May be repeated within the same term.

IHS 5935r. Health Sciences Seminar (1). (S/U grade only.) This is a seminar program for students in the PhD Program in Biomedical Sciences and other health-related programs. Biomedical Sciences students are required to enroll each Fall and Spring semester. May be repeated to a maximum of 12 credit hours. May be repeated within the same term.

IHS 5945r. Supervised Teaching (1-5). (S/U grade only.) For this course, students in the PhD Program in Biomedical Sciences are required to register for a minimum of two credit hours before graduation. May be repeated to a maximum of five credit hours. May be repeated within the same term.

IHS 5945r. Supervised Teaching (1-5). (S/U grade only.) For this course, students in the PhD Program in Biomedical Sciences are required to register for a minimum of two credit hours before graduation. May be repeated to a maximum of five credit hours. May be repeated within the same term.

IHS 6980r. Dissertation Research (1-12). (S/U grade only.) Prerequisite: Admission to doctoral candidacy. PhD candidates in Biomedical Sciences should register for this course after passing the Preliminary Examination. A minimum of 24 dissertation hours is required for graduation. May be repeated within the same term.

IHS 6980r. Dissertation Research (1-12). (S/U grade only.) Prerequisite: Admission to doctoral candidacy. PhD candidates in Biomedical Sciences should register for this course after passing the Preliminary Examination. A minimum of twenty-four dissertation hours is required for graduation. May be repeated within the same term.

IHS 6981r. Thesis Research (1-12). (S/U grade only.) M.S. candidates in Biomedical Sciences should register for this course after being directed to or electing the M.S. major. A minimum of six thesis hours are required for graduation. S/U grade only.

IHS 6981r. Thesis Research (1-12). (S/U grade only.) M.S. candidates in Biomedical Sciences should register for this course after being directed to or electing the M.S. major. A minimum of six thesis hours are required for graduation. S/U grade only.

IHS 8951r. Thesis Defense (0). (P/F grade only.) Oral defense of Thesis research. One-time registration during the term in which the student expects to defend their MS thesis. P/F grade only.

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IHS 8960r. Qualifying Exam Part 1 - Preliminary Exam (0). (P/F grade only.) This course is the first of two qualifying exams required for admission to candidacy in the Biomedical Sciences PhD program. Exam format is left to the discretion of the supervisory committee, though traditionally there is a written section and an oral section, both composed of multiple questions provided by different members of the committee. May be repeated within the same term.

IHS 8960r. Qualifying Exam Part 1 - Preliminary Exam (0). (P/F grade only.) This course is the first of two qualifying exams required for admission to candidacy in the Biomedical Sciences PhD program. Exam format is left to the discretion of the supervisory committee, though traditionally there is a written section and an oral section, both composed of multiple questions provided by different members of the committee. May be repeated within the same term.

IHS 8970r. Dissertation Defense (0). (P/F grade only.) This course is the oral defense of dissertation research. One-time registration during the term in which the student expects to defend their PhD dissertation. May be repeated within the same term.

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ISC

ISC 2937r. Natural Science Honors Seminar (3). May be repeated to a maximum of nine credit hours. May be repeated within the same term.

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ISS

ISS 4304. Contemporary Social Problems and Integrative Solutions (3). This course uses multiple and interrelated perspectives to identify and explore social issues and problems. Students are guided through the process of building interdisciplinary perspectives to maximize cognitive skills, critical thinking, and problem solving skills.

MDE

MDE 6041r. Elementary Medical Spanish I (1). (P/F grade only.) This course introduces medical students with little or no experience with the Spanish language to vocabulary and grammar related to human health and common and diseases. Students begin to develop knowledge and skills important for effective and culturally appropriate communication with Hispanic populations in health care settings. May be repeated to a maximum of three credit hours.

MDE 6042. Medical Spanish II (2). (P/F grade only.) Prerequisite: MDE 6041. This course has a special emphasis placed on in-class activities such as interviewing, history taking, and role-playing of brief patient encounters in medical settings. Students have multiple opportunities to practice their Spanish with native speakers.

MDE 6045r. Elementary Medical Spanish II (1). (P/F grade only.) Elementary Medical Spanish II builds on language knowledge and skills developed in Elementary Medical Spanish I by extending vocabulary related to human health and common diseases and by increasing proficiency in skills for communication, interviewing, and documentation when working with Spanish-speaking populations.

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MDE 7000. History of Medicine and the Pharmaceutical Industry (4). This course provides an overview of the history of the pharmaceutical industry in the United States. Among other topics, the course examines the historical origins of drug patenting and high drug prices, the origin and rise of clinical drug trials, industry efforts to medicalize ordinary forms of human behavior, and the relationship between industry promotional efforts and medical decision making.

MDE 7013. Personal Finance for the New Physician (4). This course prepares medical students for the financial aspects of the health care delivery profession, with consideration for resource distribution, revenue generation, contracting, and multiple additional relevant issues. Students benefit from acquiring familiarity with these topics and become better prepared to manage their personal financial life with a sound foundation, post-graduation.

MDE 7013. Personal Finance for the New Physician (4). This course prepares medical students for the financial aspects of the health care delivery profession, with consideration for resource distribution, revenue generation, contracting, and multiple additional relevant issues. Students benefit from acquiring familiarity with these topics and become better prepared to manage their personal financial life with a sound foundation, post-graduation.

MDE 7020r. Public Health Epidemiology (4).

MDE 7031r. Health Plan and Medical Management (4).

MDE 7035r. Patient Safety in the Physician's Practice (4).

MDE 7037r. Occupational Medicine (2-4). This elective exposes students to the practice of occupational medicine to emphasize the importance of occupation as a determinant of health status and the opportunity to prevent or alleviate health problems arising from the work environment. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7043r. Medical Spanish (2-4). The goal of the Medical Spanish elective is to expand the student's knowledge of Medical Spanish through a specific variety of topics relating to health matters. It will be necessary for the students to meet with the instructor beforehand to discuss their Spanish background and develop a course of study specifically designed to fit the student's needs. Medical Spanish will be applied to Family and International Medicine, Pediatrics, OB/GYN Medicine.

MDE 7048r. Narrative Medicine: Reflective and Creative Writing (4). In this course, students learn the tenets of narrative medicine and explore the role of narrative in improving clinician understanding of patients and the patient experience. To build narrative skills, students analyze and articulate personal experiences in clinical medicine through the discussion of select stories, poems, and non-fiction medical narratives, and through creative and reflective writing. The primary focus of this course is on writing, storytelling, and communication skills.

MDE 7048r. Narrative Medicine: Reflective and Creative Writing (4). In this course, students learn the tenets of narrative medicine and explore the role of narrative in improving clinician understanding of patients and the patient experience. To build narrative skills, students analyze and articulate personal experiences in clinical medicine through the discussion of select stories, poems, and non-fiction medical narratives, and through creative and reflective writing. The primary focus of this course is on writing, storytelling, and communication skills.

MDE 7050r. Implications of Health Policy to the Healthcare System (4).

MDE 7052r. Literature and Medicine (2-4). This elective course is designed to be taken via distance learning. Several faculty members collaborate on teaching to bring different perspectives. Extensive annotated reading lists are available for each theme. Students may select a theme or propose a new theme for faculty approval. Students may select readings from the reading list.

MDE 7058r. Creativity and Medicine (2-4). Physicians blend art and science into the practice of medicine, so it's no surprise that many doctors have blazed new trails through creative endeavors like literature, art, music, and film. Rather than simply studying the creative work of other physician-artists and authors, this course offers students the opportunity to explore the artistry inherent in the practice of medicine, while fostering their own creative potential in areas ranging from storytelling and poetry to animation, web design, digital imagery or painting, or even game design. May be repeated to a maximum of eight credit hours.

MDE 7058r. Creativity and Medicine (2-4). Physicians blend art and science in the practice of medicine, so it's no surprise that many doctors have blazed new trails through creative endeavors like literature, art, music, and film. Rather than simply studying the creative work of other physician-artists and authors, this course offers students the opportunity to explore the artistry inherent in the practice of medicine, while fostering their own creative potential in areas ranging from storytelling and poetry to animation, web design, digital imagery or painting, or even game design. May be repeated to a maximum of eight credit hours.

MDE 7060r. Clinical Ethics in Practice (2).

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MDE 7062r. Bioethics on Film (2).

MDE 7070r. Global Health Elective (2-4). This two or four week experience is designed to provide a deeper understanding and appreciation of the broad field of global (or international) health. It is composed of a series of readings, online discussion groups and written assignments.

MDE 7080r. Medical Informatics Elective (2-4). Prerequisites: Satisfactory completion of the FSU College of Medicine third year curriculum. This clinical informatics elective is offered to provide medical students with some training and exposure to clinical informatics in a large healthcare enterprise with concentration in the areas of the student's interest. Students are mentored by the CMIO (Chief Medical Informatics Officer) of the system.

MDE 7080r. Medical Informatics Elective (2-4). Prerequisites: Satisfactory completion of the FSU College of Medicine third year curriculum. This clinical informatics elective is offered to provide medical students with some training and exposure to clinical informatics in a large healthcare enterprise with concentration in the areas of the student's interest. Students are mentored by the CMIO (Chief Medical Informatics Officer) of the system.

MDE 7092r. Clinical Teaching: Introduction to Medical Education (2). This course involves the development of a clinical presentation case. Students conduct in-depth research in one particular area of medicine, from the molecular level to the whole individual, exploring the demographics as well as cultural and socioeconomical impacts of illness to strengthen that specific area of knowledge. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7101r. Psychosocial Issues in Underserved Populations (4).

MDE 7106r. Achieving Health Equity - Health Disparities Local and Global (2-4). Miscellaneous Requirements: Educational objectives will be achieved by direct observation/assessment of the student by supervising faculty, summarized on the "Evaluation of Student Performance: elective rotation" form. This course takes a broad approach to share concepts, current issues, and applications in this field embedded in a life course, person and population-centered perspective. Students will share and grow from each other's diverse backgrounds and learning skills in an effort to critically appraise literature focused on identifying and addressing health disparities and tangible measures to achieve health equity.

MDE 7110r. Reproductive Endocrinology/Infertility (4).

MDE 7121r. Primary Care Sports Medicine (4). This experience is designed to provide the student with an intense exposure to the practice of family medicine primary care setting where the physician integrates sports medicine into the practice. This rotation is particularly designed for the student who is seriously investigating a career in primary care with a sports medicine focus. Emphasis will be on the breadth and scope of sports medicine problems seen and managed by the family physician, and the services typically provided by the family physician that practices sports medicine.

MDE 7125r. Urgent Care (4). This course provides students investigating a career in an intense exposure to an urgent care setting by emphasizing the breadth and scope of patient problems seen and managed by family physicians, as well as the medical services typically provided to this population. Students are encouraged to exercise increasing independence in their patient interactions and management decision-making skills. May be repeated to a maximum of eight credit hours.

MDE 7126r. Student Health Elective (2-4). In this course, fourth year medical students spend five days a week at the FSU Health and Wellness Center seeing patients under the supervision of Student Health Center staff to evaluate, diagnose, and treat common illnesses/injuries and provide health care maintenance for patients who present to the Student Health Center. During this rotation, the medical student sees college students of all ages on a continuity and walk-in basis. This rotation is mostly urgent care medicine for the college student population, including but not limited to sexual health, mental health, infectious diseases, preventative care and initial care of injuries. May be repeated to a maximum of eight credit hours.

MDE 7135r. Rural Family Medicine Elective (4).

MDE 7136r. Family Medicine in Underserved Populations (4).

MDE 7141r. The Role of a Geriatrician (2-4).

MDE 7143r. Geriatrics, Physical Medicine, and Rehabilitation (2-4).

MDE 7144r. Subacute Skilled Nursing Facility Care (2-4).

MDE 7145r. Hospital-Based Care of the Older Adult (2-4).

MDE 7146r. Community-Based Care of the Older Adult (2-4).

MDE 7147r. Geriatric Retirement Center Care (2-4). This course offers a comprehensive, multi-disciplined experience in an upscale senior-citizen retirement complex, including independent, assisted living, and skilled nursing facilities. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7149r. Clinical Geriatrics (2-4). This elective allows students to experience the care of seniors in the following types of settings: primary-care clinic, specialty clinic, hospital, home, and nursing home. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7150r. Palliative Care (2-4).

MDE 7151r. Hospice Care (2-4).

MDE 7155r. Dementia: Assessment, Management, and Pathology (2-4).

MDE 7156r. Dementia: Evaluation and Management (2-4).

MDE 7162r. Gynecological Oncology (4).

MDE 7163r. Advanced Obstetrics (4).

MDE 7164r. Advanced Obstetrics and Gynecology (4).

MDE 7165r. Advanced Gynecology and Gynecological Surgery (4).

MDE 7167. Hospital Based OB/GYN in an At-Risk Population (4). In this course, students participate in all aspects in the hospital management of complicated pregnancies. The rotation is designed to acquaint the learner with care provided by Obstetrical Hospitalists and or Laborists.

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MDE 7180r. Maternal/Fetal Medicine (4).

MDE 7192r. Women's Health Issues in At-Risk and Underserved Populations (2-4). This course gives students the opportunity to explore, understand, and participate in the care of women in at-risk and underserved populations. May be repeated within the same term for a total of eight credit hours. MD grade only.

MDE 7193r. Psychosocial Issues in Women's Health (4).

MDE 7200. General Internal Medicine (4). This course exposes students to a broad array of medical disorders and associated management plans involving adults in inpatient and outpatient settings. Students are given responsibility of hospital patients, such as writing orders and directing care with supervision. The course focuses on the critical analysis of treatment options.

MDE 7205r. Advanced Ambulatory Care (4).

MDE 7206r. Adult Out-Patient Medicine (4).

MDE 7207r. Sleep Medicine (2-4). This elective course exposes students to sleep physiology, sleep disorders, and their management as it relates to this newly boarded specialty. Students also observe polysomnogram testing and gain a basic ability to interpret them.

MDE 7220r. Cardiology (2-4). This course enables students to work with a community cardiologist in in- and outpatient settings, to place a diagnosis and recommend treatment of cardiac disease. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7245r. Pulmonology (2-4). This course exposes students to patients with pulmonary disease in in- and out-patient settings. The course includes a broad area of diseases and disease testing methods. Grade 4 (MD) only. The course may be repeated within the same term to a maximum of eight credit hours. Prerequisite: satisfactory completion of the third year curriculum.

MDE 7247r. Pulmonary Medicine/Critical Care (4).

MDE 7250r. Dermatology (2-4).

MDE 7253r. Dermatology and Mohs Surgery (2-4).

MDE 7260r. Endocrinology (2-4).

MDE 7270r. Gastroenterology (2-4). This course enables students to work with a community gastroenterologist in outpatient surgical centers, hospital, and office settings, in order to treat a wide range of diseases of the GI tract, pancreas, liver, and biliary tract. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7280r. Hematology/Oncology (2-4). This course involves inpatient and outpatient care of a broad array of hematology and oncology disease processes. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDE 7302r. Adult and Pediatric Allergy (2-4).

MDE 7310r. Rheumatology (2-4). This elective enables students to work closely with a rheumatologist in the private sector to evaluate and treat common rheumatoid conditions. May be repeated within the same term to a maximum of eight semester hours. MD grade only.

MDE 7320r. Infectious Disease (2-4). This course exposes students to mostly inpatient consultative infectious disease medicine. Emphasis is placed on the proper use of antibiotics in a variety of infectious disease cases. MD grade only. May be repeated within the same term for a maximum of eight semester hours.

MDE 7325r. Public Health Communicable Diseases Elective (4). Course Description not on file

MDE 7328r. Clinical Infectious Disease, Hyperbaric Medicine and Wound Care (4). Course Description not on file

MDE 7340r. Medical Intensive Care Unit (4).

MDE 7341r. Critical Care Elective (2-4). This elective is set in a level 1 trauma center and introduces students to a multi-disciplinary approach to the care of the critically ill patient. May be repeated within the same term to a maximum of eight semester hours. MD grade only.

MDE 7342r. Intensive Care Units in the Hospital (4).

MDE 7350r. Nephrology (2-4).

MDE 7360r. Clinical Pharmacology (2-4).

MDE 7391r. Holistic and Integrative Medicine (2-4). This two or four week course is designed to expose students to evidence-based medicine beyond traditional Western medicine. The majority of the rotation is spent at the Archbold Integrative Medicine Center. Students spend some time in observation but also interact, under supervision, with a diverse population of patients seeking consultation for a wide spectrum of diseases.

MDE 7401r. General In-Patient Pediatrics (4).

MDE 7404r. Ambulatory Pediatrics (4).

MDE 7407r. Children's Abuse and Neglect (4)

MDE 7410r. Adolescent Medicine (4).

MDE 7411r. Adolescent Health (2-4)

MDE 7415r. Developmental/Behavioral Pediatric Medicine (4).

MDE 7420r. Pediatric Cardiology (4).

MDE 7421r. Comprehensive Pediatric Cardiology (4).

MDE 7425r. Pediatric Pulmonary Medicine (4).

MDE 7430r. Pediatric Endocrinology (4).

MDE 7431r. Pediatric Obesity (2-4).

MDE 7433r. Pediatric Gastroenterology (4).

MDE 7438r. Pediatric Genetics and Metabolism (4).

MDE 7440r. Pediatric Hematology/Oncology (4).

MDE 7445r. Pediatric Nephrology (4). This course familiarizes students with the wide range of pediatric kidney diseases encountered in the intensive-care unit as well as in inpatient and outpatient departments. Patient care ranges from common outpatient signs and symptoms suggesting kidney disease in children to the renal disease cases requiring a more intensive evaluation. May be taken for credit for a total of eight semester hours.

MDE 7454r. Pediatric Infectious Diseases (4).

MDE 7460r. Newborn Nursery Elective (4).

MDE 7461r. Neonatal Intensive Care (4).

MDE 7465r. Pediatric Critical Care and ICU (4).

MDE 7470r. Pediatric Neurology (4).

MDE 7480r. Pediatric Ophthalmology (2).

MDE 7490r. Pediatric Surgery (4).

MDE 7494r. Pediatric Orthopedic Surgery (4).

MDE 7500r. Pediatric Dermatology (2-4). Prerequisites: Satisfactory completion of the FSU College of Medicine third year curriculum. Exposure is provided to many common pediatric skin diseases and some less common and rarer congenital dermatoses.

MDE 7505r. Pediatric Emergency Medicine (4).

MDE 7533r. Forensic Pathology (4). This course allows students to observe and participate in all facets of a metropolitan Medical Examiner's Office. Students participate in a variety of activities, including: death scene investigation, autopsy techniques, as well as gross and microscopic examination of specimens. Students are exposed to forensic toxicology and to thought processes involved in toxicology. Students attend lectures and meetings, read selected assigned topics, and investigate and present a topic. May be repeated within the same term to a maximum of eight semester hours. MD grade only.

MDE 7550r. General Ophthalmology (2-4)

MDE 7570r. Orthopedic Surgery (2-4).

MDE 7572r. Hand Surgery Elective (2-4). Prerequisites: BCC 7160. This course exposes students to recent evidenced-based methods of management of hand-related afflictions. In this course, it is necessary for students to practice and apply physical examination skills of bones and joints and interpret and identify abnormalities of the hand by x-ray studies. May be repeated to a maximum of eight semester hours.

MDE 7574r. Podiatry (4).

MDE 7575r. Sports Medicine-Orthopedic and Primary Care Perspectives (4).

MDE 7580. Physical Medicine and Rehabilitation (2-12).

MDE 7590r. Ear, Nose and Throat and Head and Neck Surgery in Adults and Children (2-4).

MDE 7591r. Pediatric Ear, Nose, and Throat and Head and Neck Surgery (2-4).

MDE 7601r. Advanced General Surgery (4).

MDE 7605r. Vascular Surgery (4).

MDE 7631r. General Thoracic Survey (4).

MDE 7632r. Cardiovascular-Thoracic Surgery (4).

MDE 7642r. Bariatric Surgery Elective (4). Prerequisites: BCC 7160. This course encourages increased student responsibility for the care of patients seen on a daily basis, and to assist the attending physician in the care of these patients, regardless of location. In this course, it is necessary for students to focus entirely on the surgical care and potential complications of patients who are seeking bariatric surgical procedures to improve co-morbidities. May be repeated to a maximum of eight semester hours.

MDE 7645r. Surgical Oncology Elective (4). Prerequisite: BCC 7160 Surgery Clerkship. This elective course focuses on oncology and the use of surgery to treat or cure patients with cancer by exposing students to the work-up and management of gastrointestinal malignancies including esophageal, gastric, pancreatic, bile duct and liver. Students gain experience in the outpatient clinic setting as well as in the operating room during complex open and robotic procedures.

MDE 7650r. Neurosurgery (4).

MDE 7660r. Plastic Surgery (4).

MDE 7675r. Urology (4).

MDE 7676r. Colon and Rectal Surgery (4).

MDE 7682r. Trauma Surgery (4).

MDE 7684r. Burn Care (4).

MDE 7700r. Anesthesiology (2-4).

MDE 7701r. Pediatric Anesthesiology (4). Students will interact with the anesthesia team in the delivery of clinical care in a wide variety of surgical procedures. Students will learn the physiologic and anatomic differences between pediatric and adult patients and how to apply them to the preoperative evaluation, preoperative management and post operative care. Students will be introduced to a variety of anesthetic techniques.

MDE 7701r. Pediatric Anesthesiology (4). Students will interact with the anesthesia team in the delivery of clinical care in a wide variety of surgical procedures. Students will learn the physiologic and anatomic differences between pediatric and adult patients and how to apply them to the preoperative evaluation, preoperative management and post operative care. Students will be introduced to a variety of anesthetic techniques.

MDE 7711r. Emergency Medical Services Systems and Pre-Hospital Care (4 on file)

MDE 7713r. Emergency Medical Service Care and Administration (4).

MDE 7720. Introduction to Wilderness Medicine (2). This course introduces the concepts of wilderness medicine and makes use of various teaching tools. Didactic sessions cover a wide range of wilderness-medicine topics, along with selected readings. Experiential sessions allow students to apply what they have learned through planned field activities and simulated patient scenarios covering basic wilderness treatment, teamwork, and improvisation.

MDE 7721. Advanced Wilderness Medicine (2). MDE7720,P,Y,** This course provides an overview of advanced topics in wilderness medicine. The course employs various teaching tools, including didactic sessions with selected readings. Students produce a presentation on a self-selected topic. Applied, experiential activities include planned field activities and demonstrations of wilderness techniques requiring team work and improvisation.

MDE 7763r. Diagnostic Radiology (2-4).

MDE 7765r. Interventional Radiology (4).

MDE 7769r. Pediatric Radiology (2-4).

MDE 7780r. Radiation Oncology (4).

MDE 7800r. Neurology (2-4).

MDE 7812. Neuropsychology (2). This course helps students understand the role of neuropsychology and rehabilitation in medicine. The course incorporates practical application of neuropsychological principles and examination in a medical context, neurological rehabilitation, and up-to-date outcomes research analysis.

MDE 7812. Neuropsychology (2). This course helps students understand the role of neuropsychology and rehabilitation in medicine. The course incorporates practical application of neuropsychological principles and examination in a medical context, neurological rehabilitation, and up-to-date outcomes research analysis.

MDE 7820r. Pain Management (2-4).

MDE 7830r. Inpatient Psychiatry (2-4).

MDE 7831r. Outpatient Psychiatry (2-4).

MDE 7832r. Outpatient Care of the Chronically Mentally Ill (2-4).

MDE 7833r. Advanced Psychiatry (4).

MDE 7836r. Medical/Psychiatric Elective (2-4).

MDE 7837r. Psychiatry in the Correctional Institution (2-4).

MDE 7840r. Psychiatry and the Law (2-4).

MDE 7841. Behavioral Medicine (2-12).

MDE 7850r. Addiction Medicine (2-4).

MDE 7870r. Child and Adolescent Psychiatry (2-4).

MDE 7872r. Adolescent Psychiatry (2-4).

MDE 7883r. Geriatric Psychiatry (2-4).

MDI

MDI 7161r. Labor and Delivery Sub-Internship (4). This course enables students to work as an integral part of the OB/GYN residency team. Students take one call per rotation week and round on at least 1-2 labor patients and any routine patients that they deliver. Students write notes every two hours while on labor and delivery rounds and give a fifteen to thirty minute case presentation on the last day of rotation.

MDI 7163r. GYN Surgery Sub-Internship (4). This course enables students to work as an integral part of the OB/GYN residency team. Students take one call per rotation week and round on all GYN patients that they operated on. Students assist on operative cases and may be assigned private attending cases, if desired. Students give a 15-30 minute case presentation on the last day of rotation.

MDI 7204r. Inpatient Medicine (4). Prerequisite: BCC 7112. This 4-week course allows the student additional learning experience caring for ill adults in an inpatient setting. The student acts as part of the inpatient team and is given progressive autonomy under the direct supervision of the attending faculty. The student gathers data, takes full histories, performs thorough examinations and formulates differential diagnoses, treatment plans and participates in daily rounds, writes progress notes and participates in discharge planning.

MDI 7400r. Pediatric Inpatient Subinternship (4).

MDI 7710r. Emergency Med Sub-Internship (4). This elective gives students responsibilities, supervision, and performance expectations comparable to those of a beginning first-year EM resident. Instruction is centered around bedside clinical supervision by faculty and residents in two busy Emergency departments. May be repeated within the same term to a maximum of eight credit hours. MD grade only.

MDI 7841r. Psychiatry Consult Liaison Elective (4).

MDR

MDR 7010r. Clinical Research (4).

MDR 7011r. Pre-Hospital Care Research (4).

MDR 7012r. Special Topics in Health Research (2-4).

MDR 7061r. Ethics in Medicine: Philosophical Foundations and Clinical Applications (2-4). The goal of this individualized learning experience is to provide the student the opportunity for an in-depth, philosophically-oriented exploration of concepts and principles relevant to medical ethics and public health policy. In particular, a major aim of this elective is for the student to appreciate the role that philosophical concepts(e.g. rights, justice, personhood, etc.) play in analysis of cases and policies in medical ethics.

MDR 7063r. Research Ethics (2).

MDR 7120r. Family Medicine Research/Scholarly Activity (2-4).

MDR 7460r. Research Topics in Neonatology (2-4).

MDT 7010r. Special Topics in Clinical Sciences (2-4).

MDT 7011r. Special Topics in Medicine and Law (2-4). This course is a two or four week experience individually tailored to the interests of the particular students enrolled. Each individually designed experience focuses on preparing the students to deal more effectively with legal issues and processes likely to be encountered in clinical medical practice.

MDT 7055r. Special Topics in Medical Humanities and Social Sciences (2-4).

MDT 7055r. Special Topics in Medical Humanities and Social Sciences (2-4).

MDT 7120r. Special Topics in Family Medicine (2-4).

MDT 7140r. Special Topics in Geriatrics (2-4).

MDT 7160r. Special Topics in Obstetrics and Gynecology (2-4).

MDT 7200r. Special Topics in Internal Medicine (2-4).

MDT 7400r. Special Topics in Pediatrics (2-4).

MDT 7600r. Special Topics in Surgery (2-4).

MDT 7710r. Special Topics in Emergency Medicine (2-4).

MDT 7760r. Special Topics in Radiology (2-4).

MDT 7840r. Special Topics in Psychiatry (2-4).

MDU

MDU 1000. Careers in Medicine: Preparation to Practice (1). This course is intended for all undergraduates who are seriously considering a career in medicine. Students learn how to successfully prepare for the academic, personal, and professional rigors of medical school and for a career in medicine. Students are encouraged to take this course early in their undergraduate years, so they can pursue the appropriate academic coursework, volunteer, and earn medical experience that will help them become successful medical school applicants and health professionals.

MDX

MDX 7010r. Medical Externship in Clinical Research (2-9).

MDX 7075r. International Health Externship (2-4). This course is a two or four week experience designed to provide students with an intense exposure to the practice of medicine in international settings where the physicians and other health care providers provide care. Students are also encouraged to compare the total health care system of the country(ies) to the United States.

MDX 7120r. Medical Externship in Family Medicine (2-9).

MDX 7140r. Medical Externship in Geriatrics (2-9).

MDX 7162r. Medical Externship in Obstetrics and Gynecology (2-9).

MDX 7200r. Medical Externship in Internal Medicine (2-9).

MDX 7250r. Medical Externship in Dermatology (2-9).

MDX 7280r. Medical Externship in Oncology (2-9).

MDX 7320r. Medical Externship in Infectious Disease Medicine (1-9).

MDX 7400r. Medical Externship in Pediatrics (2-9).

MDX 7430r. Medical Externship in Medical Genetics (2-9).

MDX 7550r. Medical Externship in Ophthalmology (2-9).

MDX 7570r. Medical Externship in Orthopedic Surgery (2-4).

MDX 7580r. Medical Externship in Physical Medicine and Rehabilitation (2-9).

MDX 7590r. Medical Externship in Otolaryngology (2-9).

MDX 7600r. Medical Externship in Surgery (2-9).

MDX 7650r. Medical Externship in Neurosurgery (2-9).

MDX 7700r. Medical Externship in Anesthesiology (2-9).

MDX 7710r. Medical Externship in Emergency Medicine (2-9).

MDX 7760r. Medical Externship in Radiology (2-9).

MDX 7800r. Medical Externship in Neurology (2-9).

MDX 7840r. Medical Externship in Psychiatry (2-9).

PAS

PAS 2054. Introduction to the PA Profession (3). This course explores the history and development of the physician assistant profession. Students develop a thorough understanding of the PA's role within the healthcare system and the important role they play on the healthcare team.

PAS 5000C. Patient Assessment I (3). Prerequisite: PAS 5022. This course is the first of two courses that provide the student clinician with the knowledge and skills necessary to complete a thorough assessment of a patient encountered in clinical practice. Students become proficient in patient interviewing, organization, execution and documentation of the physical exam.

PAS 5006. Patient Assessment II (3). Prerequisite: PAS 5000C. This course is the second of two courses that provide the student clinician with the knowledge and skills necessary to complete a thorough assessment of a patient encountered in clinical practice. Students demonstrate proficiency in patient interviewing, organization, execution and documentation of the physical exam.

PAS 5010. Clinical Medicine I (3). Prerequisites: PAS 5045, PAS 5022, and PAS 5025. This course is the first in a series of four courses that provide the physician assistant student with a core understanding of the common disease processes encountered in clinical practice. Emphasis is on the recognition, diagnosis, management and prevention of these diseases. Systems discussed in this course include endocrine, gastrointestinal and hematologic.

PAS 5013. Evidence Based Practice (1). Prerequisite: Admission to the Physician Assistant Program. This course introduces the student clinician to the principles of evidence-based practice and information utilization. Students learn to critically appraise and interpret information in medical literature and pharmaceutical marketing material.

PAS 5020r. Clinical Medicine II (3). Prerequisite: PAS 5045, PAS 5022, and PAS 5025. This course is the second in the series of four courses that provide the physician assistant student with a core understanding of the common disease processes encountered in clinical practice. Emphasis is on the recognition, diagnosis, management and prevention of these diseases. Systems discussed in this course include eyes, ears, nose, throat, dermatological, immune and neurologic.

PAS 5022r. Clinical Gross and Radiographic Anatomy (6). Prerequisite: Admission to the Physician Assistant Program, or approval of the PA Program Director. This course in human cadaver dissection is designed to provide the student with a fundamental understanding of the structure and function of the human body with an emphasis on the clinical relationship of human anatomy to health and disease. Students participate in lectures, team-based human dissection labs, demonstrations and discussion of clinical and radiographic anatomy.

PAS 5025. Foundations of Clinical Physiology (2). Prerequisite: Admission to the Physician Assistant Program. This course, the first in a series of three physiology/pathophysiology courses, provides the student clinician with a solid foundation in normal human physiology and emphasizes its relationship to cell function, homeostasis and molecular interactions within the human body.

PAS 5028. Systemic Physiology and Pathophysiology I (3). Prerequisite: PAS 5025. This course, the second in a series of three physiology/pathophysiology courses, provides the student clinician with a solid foundation in normal and abnormal physiology (pathophysiology). Emphasis is placed on the relationship to cell function, homeostasis and molecular interactions within the human body. Systems covered in this course include endocrine, gastrointestinal, hematologic, immune and neurologic.

PAS 5029. Systemic Physiology and Pathophysiology II (3). Prerequisite: PAS 5025. This course, the third in a series of three physiology/pathophysiology courses, provides the student clinician with a solid foundation in normal and abnormal physiology (pathophysiology). Emphasis is placed on the relationship to cell function, homeostasis and molecular interactions within the human body. Systems covered in this course include genitourinary/renal, musculoskeletal, cardiovascular and respiratory.

PAS 5030. Clinical Medicine III (3). Prerequisites: PAS 5022, PAS 5025, and PAS 5045. This course is the third in a series of four courses that provide the physician assistant student with a core understanding of the common disease processes encountered in clinical practice. Emphasis is on the recognition, diagnosis, management and prevention of these diseases. Systems discussed in this course include musculoskeletal and genitourinary.

PAS 5034r. Clinical Medicine IV (3). Prerequisites: PAS 5022, PAS 5025, and PAS 5045. This course is the fourth in a series of four courses that provide the physician assistant student with a core understanding of the common disease processes encountered in clinical practice. Emphasis is on the recognition, diagnosis, management and prevention of these diseases. The systems discussed in this course include cardiovascular and pulmonary.

PAS 5045. Integrated Clinical Science (3). Prerequisite: Admission to the Physician Assistant Program. This course provides the student clinician with foundational knowledge in the basic clinical sciences needed throughout the physician assistant curriculum. Emphasis is placed on clinical microbiology, genetics and diagnostic labs that are utilized in the clinical management of health and disease. Prior coursework in microbiology and genetics is required to be successful in this course.

PAS 5050. Essentials of PA Practice (2). Prerequisite: Admission to the Physician Assistant Program. This course provides the foundational knowledge essential for entrance into the PA profession. Areas to be discussed include the history of the PA profession, the physician-PA team, professionalism, professional practice issues, certification and licensing, professional development and ethics.

PAS 5056. US Healthcare Systems and Policy (2). Prerequisite: Admission to the Physician Assistant Program. This course examines the U.S. healthcare system, regulations, and policies that affect the delivery of healthcare in the United States.

PAS 5071. Clinical Pharmacology I (2). Prerequisite: Admission to the Physician Assistant Program. This course, the first in a series of four courses, introduces the student clinician to the basic principles of pharmacology. Students develop an understanding of pharmacokinetics, pharmacodynamics, pharmacogenetics, drug classes and common adverse effects of each drug class.

PAS 5072. Clinical Pharmacology II (2). Prerequisite: PAS 5071. In this course, the second in a series of four courses, students learn to apply pharmacologic agents used in the treatment of disorders encountered during clinical practice. Students focus on drug classes, interactions, functional and clinical applications and monitoring. Groups of drugs discussed in this course include endocrine, gastrointestinal, hematologic, oncologic, dermatologic, neurologic, antimicrobials and drugs related to the eyes, ears, nose and throat.

PAS 5073. Clinical Pharmacology III (2). In this course, the third in a series of four courses, students learn to apply pharmacologic agents used in the treatment of disorders encountered during clinical practice. Students focus on drug classes, interactions, functional and clinical applications and monitoring. Groups of drugs discussed in this course include musculoskeletal, genitourinary, renal, cardiovascular and pulmonary.

PAS 5074. Clinical Pharmacology IV (1). In this course, the fourth in a series of four courses, students build upon the knowledge gained in the clinical medicine and pharmacology series of courses. Students discuss medications related to pain management, anesthesia, dependence/addiction and toxicology.

PAS 5110L. Health Promotion/Disease Prevention (2). Prerequisite: Admission to the Physician Assistant Program. This course provides the student clinician with the fundamental knowledge and skills to apply the principles of health promotion and disease prevention in the development of a patient-centered management plan to patients in a variety of clinical settings.

PAS 5127. Behavioral and Mental Health (2). Prerequisite: Admission to the Physician Assistant Program. This course provides the physician assistant student with a foundation of knowledge and skills necessary to assess and treat common mental health disorders and address psychosocial issues found in clinical practice.

PAS 5254. Foundations of Clinical Nutrition (1). Prerequisite: Admission to the Physician Assistant Program. This course provides an overview of the principles of human nutrition that includes foundation content on the normal physiological and biochemical roles of nutrients, dietary guidelines, nutritional assessment, and the role of diet in health and disease.

PAS 6007. Clinical Procedures (2). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course provides an opportunity for the student clinician to learn, practice and demonstrate proficiency in required procedural skills.

PAS 6053. Professional Development (1). Prerequisite: Admission to the Physician Assistant Program. This course builds upon the information gained during the didactic and clinical phase of the PA Program and prepares the student for graduation, certification, licensure, employment and practice.

PAS 6097. Evidence-Based Research I (2). Prerequisite: PAS 5013. This course, the first in a series of three courses, builds upon the information obtained in the course: Evidence-Based Practice. Students continue their critical appraisal of the medical literature and pharmaceutical marketing materials and develop skills in information utilization and dissemination.

PAS 6098. Evidence-Based Research II (1). Prerequisite: PAS 6097. In this course, the second in a series of three courses, students continue their critical appraisal of the medical literature and pharmaceutical marketing material and refine their skills in developing a clinical question which lay the foundation for their graduate project.

PAS 6099. Evidence-Based Research III (1). Prerequisite: PAS 6098. In this course, the final course in a series of three courses, students continue their critical appraisal of the medical literature and pharmaceutical marketing material and refine their skills in developing and answering a clinical question and leads to the completion of their graduate project.

PAS 6190. Internal Medicine Clerkship (5). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with a six-week supervised clinical practice experience (SCPE) in an inpatient and office based Internal Medicine practice. Students work with a qualified preceptor and provide care to patient populations across the lifespan that present with acute and chronic conditions as well as those seeking preventative healthcare.

PAS 6200. General Surgery (2). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course introduces the student to the principals of general surgery. Students continue to develop their critical thinking skills, learn to and manage patients in general surgical practice. Students develop competency in suturing, basic surgical techniques, procedures and asepsis.

PAS 6291. General Surgery Clerkship (5). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with a six week supervised clinical practice experience (SCPE) in General Surgery. Students work with a qualified preceptor in a general surgical setting with an emphasis in pre-operative, intra-operative and post-operative care.

PAS 6303. Pediatric Medicine (2). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course introduces the student to the principles of pediatric medicine. Students continue to develop their critical thinking skills and learn to identify and manage common medical and surgical conditions that affect the pediatric patient. Special emphasis is placed on the importance of communication with patients and families as well as injury and disease prevention.

PAS 6390. Pediatric Medicine Clerkship (5). Prerequisite: PAS 6941. This rotation is designed to provide the physician assistant student with a six week supervised clinical practice experience (SCPE) in Pediatric Medicine. Students work with a qualified preceptor in a pediatric medicine setting providing care to pediatric patients that present with acute and chronic conditions as well as those seeking preventative healthcare.

PAS 6490. Family Medicine Clerkship (5). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with six-week supervised clinical practice experience (SCPE) in Family Medicine under the direct supervision of a qualified preceptor. Students provide care to patient populations across the lifespan that present with acute and chronic conditions as well as those seeking guidance on preventative healthcare.

PAS 6491. Geriatric Medicine Clerkship (3). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with a four week supervised clinical practice experience (SCPE) in Geriatric Medicine. Students work with a qualified preceptor in a practice that emphasizes the geriatric patient. Attention is placed on characteristics of aging, end of life care, assisted living, nursing care, elder abuse, health promotion and maintenance as well as obstacles to care commonly encountered in the geriatric population.

PAS 6492r. Mental Health Clerkship (5). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with a six week supervised clinical practice experience (SCPE) in Behavioral and Mental Health setting under the direct supervision of a qualified preceptor. Students develop a solid foundation in the fundamentals of the evaluation, diagnosis, treatment, and appropriate referral of patients with mental health disorders.

PAS 6505. Women's Health (2). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course introduces the student to the principals of women's health. Students build on the knowledge obtained during the clinical medicine course series and continue to develop their critical thinking skills and learn to identify and manage common medical and surgical conditions that affect the female patient.

PAS 6591. Women's Health Clerkship (5). Prerequisite: PAS 6595. This rotation is designed to provide the physician assistant student with a four week supervised clinical practice experience (SCPE) in Women's Health. Students work with a qualified preceptor in a clinical setting with an emphasis in women's health providing care to patient populations across the lifespan that present with acute and chronic conditions as well as those seeking preventative healthcare in gynecology and obstetrics.

PAS 6605. Emergency Medicine (3). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course introduces the student to the principals of emergency medicine. Students will continue to develop their critical thinking skills and will learn to identify and manage common medical and surgical conditions that present to the emergency department.

PAS 6876r. Emergency Medicine Clerkship (3). Prerequisite: PAS 6941. This rotation is designed to provide the physician assistant student with a four week supervised clinical practice experience (SCPE) in Emergency Medicine. Students work with a qualified preceptor in an emergency department setting providing care to patient populations across the lifespan that present with acute and chronic conditions as well as those seeking preventative healthcare.

PAS 6941. Transition to Clinical Practice (4). Prerequisites: PAS 5010, PAS 5020, PAS 5030, and PAS 5034. This course guides the physician assistant student through their transition from the classroom to the clinic. Emphasis is placed on the assessment, diagnosis and the practical application of therapeutics to patient-centered clinical practice.

PAS 6945. Elective Clerkship (3). Prerequisite: PAS 6941. This clerkship is designed to provide the physician assistant student with a four week supervised clinical practice experience (SCPE) in a specialty selected by the student. Students work with a qualified preceptor in the selected specialty and provide care to specific patient populations that present with acute and/or chronic conditions.

PHC

PHC 5003. Chronic Disease Epidemiology (3). This course discusses chronic disease risk factors, conditions, diseases, and public health approaches within the context of epidemiology. Students learn concepts and methodology in describing chronic diseases and their methods for control.

PHC 5797. Advanced Public Health Statistics and Data Analysis (3). This course provides students with the basic data management skills necessary for carrying out quantitative analysis and presenting the results to both lay and professional audiences in public health. Students learn the fundamentals of research study design, the relevant research methods and data collection, and the appropriate modeling techniques for health projects.

PHC 6002. Infectious Disease Epidemiology (3). This course introduces the basic methods for infectious disease epidemiology and case studies of important disease syndromes and entities in various disciplines within infectious disease.

PHC 6110. Comparative Health (3). This course provides a comprehensive examination of the structure of healthcare systems from selected countries worldwide. Specific attention is paid to the developmental history of the national healthcare systems, financing, and infrastructure.

PSB

PSB 5347. Molecular Neuropharmacology (3). This course provides an in-depth description of basic principles in pharmacology and the cellular and molecular bases of drug effects in the central nervous system.