

# Herbert Wertheim College of Medicine

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**Madhavan Nair**

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<i>Student Academic Success Student Programs</i>	<b>Scarlett Aldana</b>
<i>Student Support Services; Associate Ombudsperson</i>	<b>Heidi von Harscher</b>
<i>Translational Glycobiology Institute</i>	<b>Charles J. Dimitroff</b>

## Mission Statement

By providing an environment enhanced by diversity, clinical innovation, and research, Florida International University Herbert Wertheim College of Medicine prepares socially accountable, community-based physicians, scientists, and health professionals who are uniquely qualified to transform the health of patients and communities.

## History

Florida International University (FIU) Herbert Wertheim College of Medicine (HWCOC) was established in response to a community need for access to medical education and a regional need to address a shortage of physicians. A proposal for a college of medicine at FIU was presented to the Board of Regents on July 5, 2004; the decision was postponed, and later that year the Board of Regents was dissolved by the Governor and replaced by the Board of Governors.

The university continued to build its case for a medical school based on the need for greater access to medical education and patient care, and on the need to reduce health disparities in the community. In November 2005, the Board of Governors heard FIU presentations for the creation of a new medical school in Florida. In March 2006, the South Florida community was awarded a public college of medicine at FIU in Miami. Founding faculty members were recruited, and in February 2008 the Liaison Committee on Medical Education (LCME) conferred preliminary accreditation on the college's Doctor of Medicine degree program. The college accepted its first class of future doctors in fall 2009. Full accreditation was granted in February 2013, and the first cohort of students graduated in April 2013.

## Doctor of Medicine (MD) Degree

The Doctor of Medicine (MD) degree program prepares students for advancement into postgraduate study and for the practice of medicine in any medical specialty or primary care area. In addition to required courses and clerkships, the MD degree program requires demonstrated achievement of general competencies required for beginning a residency program, passing of Step 1 and Step 2 Clinical Knowledge and Clinical Skills of the United States Medical Licensing Examination, consistent display of professional behaviors and values appropriate for the practice of medicine, and recommendation from the Medical Student Evaluation and Promotion Committee and the HWCOC Dean.

The curriculum is divided into four successive periods of study, with foundations in basic medical science, clinical science, clinical skills, professionalism, and social

accountability. Service learning is a major component of the program, occurring through the college's Green Family Foundation Neighborhood Health Education Learning Program (NeighborhoodHELP) and other health care delivery service opportunities. The college has formal affiliations with health care providers in the community, providing settings for supervised clinical practice learning. Among these affiliations are Baptist Health South Florida, Broward Health, Citrus Health Network, Cleveland Clinic Florida, Good Samaritan Medical Center, Jackson Health System (Public Health Trust), Leon Medical Centers, Memorial Healthcare System, Nicklaus Children's Hospital, Mount Sinai Medical Center, Palmetto General Hospital, Miami VA Healthcare System, South Florida Evaluation and Treatment Center, and several ambulatory health care clinics.

For additional information on program requirements for the MD degree, visit the HWCOC website at <http://medicine.fiu.edu/education/md/>.

## Admission

HWCOC participates in the American Medical College Application Service (AMCAS) application process (see <https://www.aamc.org/students/applying/amcas>).

Applications verified by AMCAS are the first step in the HWCOC applicant screening process. Following receipt and verification of the AMCAS application and its data, each applicant is invited to complete the HWCOC Secondary Application. A \$30 nonrefundable application fee is required with submission of the HWCOC Secondary Application. The HWCOC Secondary Application provides additional insight into the applicant, exploring the applicant's interest in medicine, and suitability for HWCOC. Applicants are invited for interviews based on academic factors and nonacademic factors, such as personal experience in several of the following: clinical/patient care exposure, research, commitment to service, leadership, and other enriching qualities.

After the interview, the completed file is reviewed by the Admissions Committee. The Admissions Committee then votes to determine the admission status of the applicant. HWCOC maintains an active waitlist until the first day of Orientation.

## Coursework Requirements

### Total Credits: 189

#### Period 1 (37 credits)

BMS 6001	Genes, Molecules, and Cells	6
BMS 6015	Clinical Skills I	5
BMS 6100	Structure of the Human Body	4
BMS 6400	Pharmacology	4
BMS 6500	Integrated Functions of the Human Body	5
BMS 6603	Pathology and Infectious Disease	6
BMS 6820	Humanism and Medical Jurisprudence	1
BMS 6826	Ethical Foundation of Medicine	1
BMS 6827	Socio-economic and Cultural Aspects of Health	2
BMS 6880	Clinical Epidemiology and Quantitative Research	2
BMS 6891	Professional Behavior I	1

#### Period 2 (54 credits)

BMS 6016	Clinical Skills II	8
BMS 6064	End of Life Care	1
BMS 6066	Evidence-Based Medicine &	

	Complimentary and Integrative Medicine 1	
BMS 6067	System Based Practice	2
BMS 6071	Community-Engaged Physician I	5
BMS 6631	Hematopoietic and Lymphoreticular Systems	3
BMS 6632	Endocrine System	3
BMS 6633	Cardiovascular and Respiratory Systems	6
BMS 6634	Gastrointestinal System and Medical Nutrition	4
BMS 6635	Musculoskeletal Systems	3
BMS 6636	Nervous System and Behavior I	6
BMS 6637	Reproductive System	3
BMS 6638	Renal System	3
BMS 6643	Integumentary System: The Skin	2
BMS 6840	Nervous System and Behavior II	3
BMS 6892	Professional Behavior II	1

**Period 3 (59 credits)**

BMS 7810	Core Concepts in Medicine	3
MDC 6102	Community-Engaged Physician II	1
MDC 7120	Family Medicine Clerkship	9
MDC 7180	Obstetrics and Gynecology Clerkship	7
MDC 7200	Internal Medicine Clerkship	9
MDC 7400	Pediatrics Clerkship	7
MDC 7600	Surgery Clerkship	9
MDC 7760	Radiology Clerkship	2
MDC 7800	Neurology Clerkship	5
MDC 7830	Psychiatry Clerkship	7

**Period 4 (39 credits)**

MDC 6103	Community-Engaged Physician III	1
MDC 7124	Geriatrics	2
MDE 7059	Community Medicine Practicum	1
MDE 7067	Professional Development and Clinical Medicine Capstone	2
MDR 7910	Research Scholarship	9
MDS 7XXX	Selective (Medicine, Surgery, or Hospital-Based Specialty)	4
MDS 7XXX	Selective (Medicine, Surgery, or Hospital-Based Specialty)	4
MDI 7XXX	Subinternship	4
MDS 7710	Emergency Medicine	4
MDE 7XXX	Clinical Elective	4
MDE 7XXX	Clinical Elective	4

**Green Family Foundation NeighborhoodHELP**

HWCOCM, in collaboration with community partners and other FIU colleges, established NeighborhoodHELP as a novel component of medical education; the program aims to improve health outcomes and train future members of the health care workforce to be socially accountable. Through this service-learning experience, students develop an understanding of the social determinants of health, of interprofessional practice, and of important aspects of health systems science. Teams of students, faculty, and outreach workers strive to address the social and health care needs of household members living in medically underserved neighborhoods in South Florida. After being introduced to important concepts including interprofessional practice, health disparities, and health equity in their first year, medical students then join an interprofessional team for their last three years. These interprofessional teams may include FIU nursing, social work, physician assistant, public health, law, and education students in addition to medical students.

Teams apply concepts learned in the classroom during regular visits to these communities, developing individualized and comprehensive plans to improve the health and quality of life of the household members served. Students, supervised by interprofessional faculty, assess, respond to, and collaborate with assigned households to address health issues. Staffed by primary care providers, the program provides integrated primary and behavioral health care in fully equipped mobile health centers stationed in the designated neighborhoods. It also runs a mobile mammography screening program. Through participation in NeighborhoodHELP, students develop cultural humility by helping to address the complex medical, social, and behavioral health needs experienced by diverse patients in dynamic communities

**Clinical Services: FIU Health Care Network (FIU Health)**

FIU Health Care Network (branded FIU Health) is the management service organization that manages the university's health system and faculty group practice. FIU Health supports the education and service missions of FIU and HWCOCM and provides primary and specialty care services to the community through an integrated, team-based approach.

**Research: Biomedical and Clinical**

Research universities, and medical schools in particular, perform basic medical research that leads to breakthroughs in detection, diagnosis, treatment, and eradication of disease and other health problems. FIU scientists conduct important disease-related research. One of the objectives of the research program is to foster synergy between teaching, clinical practice, and basic/translational research. FIU medical students are aware of the latest medical developments and work alongside renowned researchers to develop research skills.

The college's internationally recognized scientists, all with substantial research funding, are developing major research programs in basic, translational, and clinical research in glycobiology, environmental science and toxicology, genomic and molecular medicine, immunology and nanotechnology, cancer biology, behavioral health and health disparities and population health.

**Master in Physician Assistant Studies**

The Master in Physician Assistant Studies (MPAS) program is designed to provide a broad, interdisciplinary education that prepares students for collaborative medical practice as physician assistants. By utilizing the expertise of HWCOCM physician and physician assistant faculty members, core knowledge and information is provided to students.

The 27-month curriculum differentiates itself from other graduate programs at FIU by training students to serve South Florida's diverse population through a patient-centered curriculum that emphasizes medical and cultural competence. The educational program occurs in a medical school environment and educates students in basic science and clinical science. The program is divided into two phases, didactic and clinical; the duration of the didactic phase is 15 months, and the duration of the

clinical phase is 12 months. During the second phase of the program, students participate in supervised clinical rotations. Students are required to complete supervised clinical experiences in emergency medicine, family medicine, internal medicine, pediatrics, psychiatry, obstetrics and gynecology, and surgery. Students also must complete an elective. Rotation sites may vary in schedule, expectations, and assignments.

### Admission Requirements

The MPAS program adheres to the general admission procedures outlined by the FIU University Graduate School (UGS). Completed applications are evaluated by an Admissions Committee designated by the program director, who is appointed by the HWCOT Dean. In addition, applicants must meet the following criteria for admission to the master's program:

1. Hold a Bachelor's degree or its equivalent from an accredited college or university. Baccalaureate degrees must be completed by the spring semester prior to matriculation;
2. Earn overall upper division and upper division science grade point averages (GPAs) of at least 3.0 (on a 4-point scale);
3. Complete all prerequisite courses within 7 years of the application deadline. All prerequisite courses must be completed by the application deadline (i.e., courses completed after the application deadline will not be acknowledged). Applicants must earn grades of "C" or higher in all prerequisite courses.
4. Submit official Graduate Record Examination (GRE) scores. Scores must be dated within 5 years of the application deadline. Scores should be sent by the Educational Testing Service directly to the Central Application Service for Physician Assistants, code 0554;
5. Submit three letters of recommendation from physicians, physician assistants, nurse practitioners, professors, or any individual with whom the applicant has worked in a professional or educational environment;
6. For international graduate student applicants whose native language is not English, a total score of 80 on the internet-based Test of English as a Foreign Language (TOEFL) (equivalent to a total score of 550 on the paper-based TOEFL) or 6.5 overall on the International English Language Testing System (IELTS) is required.

### Graduation Requirements

To be awarded a Master in Physician Assistant Studies degree, each student must:

1. Pass each required course/rotation with a grade of "C" (75%) or higher and maintain an overall GPA of 3.0;
  - a. Pass summative written and practical examinations;
2. Complete a minimum of 92 credits
3. Submit and obtain faculty endorsement of a signature paper/capstone project;
4. Complete the Physician Assistant Clinical Knowledge Rating and Assessment Test (PACKRAT) for self-assessment;
5. Comply with program standards of conduct and guidelines for ethical conduct;

6. Complete the program's Physician Assistant Board Review Course.

### Course Requirements (92 credits)

#### Fall Semester 1 (14 credits)

PAS 6022	Gross Anatomy	4
PAS 6014	Physiology I	3
PAS 6040	Clinical Assessment I	3
PAS 6184	Medical Microbiology and Infectious Disease	4

#### Spring Semester 2 (17 credits)

PAS 6031	Clinical Skills I	2
PAS 6015	Physiology II	3
PAS 6011	Clinical Medicine I	3
PAS 6023	Pharmacology in Disease Pathology I	2
PAS 6090	Clinical Application of Evidence-Based Practice I	3
PAS 6041	Clinical Assessment II	2
PAS 6016	Integration into Clinical Concepts I	2

#### Summer Semester 3 (7 credits)

PAS 6012	Clinical Medicine II	3
PAS 6026	Pharmacology in Disease Pathology II	2
PAS 6017	Integration into Clinical Concepts II	2

#### Fall Semester 4 (13 credits)

PAS 6032	Clinical Skills II	1
PAS 6033	Clinical Medicine III	3
PAS 6050	The Role of PA in American Health Care	3
PAS 6005	Human Behavior	2
PAS 6018	Integration into Clinical Concepts III	2
PAS 6091	Clinical Application of Evidence-Based Practice II	2

#### Clinical Year Rotations (36 credits)

PAS 6103	Internal Medicine Clerkship	6
PAS 6400	Family Medicine Clerkship	8
PAS 6200	Surgery Clerkship	6
PAS 6500	Obstetrics/Gynecology Clerkship	3
PAS 6300	Pediatric Clerkship	6
PAS 6600	Emergency Medicine Clerkship	4
PAS 6125	Psychiatry Clerkship	3

#### Elective Clinical Rotations (5 credits minimum)

PAS 6185	Geriatric Medicine Clerkship	4
PAS 6940	Elective Clinical Clerkship	Variable

### PhD in Biomedical Sciences

Approved by the Board of Governors of the State University System of Florida in January 2012 and admitting students since August 2012, the PhD in Biomedical Sciences program at HWCOT provides a curriculum different than that of other FIU colleges. A distinctive feature of this program is that both graduate students and medical students sit side-by-side in some courses in the introductory basic sciences portion of the medical curriculum, providing graduate students with an appreciation of the medical aspects of modern biosciences. The program equips graduate students with the ability to apply research skills from bench to bedside and to translate fundamental discoveries into new treatments for human diseases.

### Admission Requirements

The PhD in Biomedical Sciences program at HWCOT adheres to the general admission procedures outlined by

the FIU University Graduate School (UGS). Completed applications are evaluated by an Admissions Committee. Each applicant must meet the following minimum requirements to be considered for admission:

1. Hold a Bachelor's degree in a relevant discipline from an accredited college or university;
2. Earn a GPA of at least 3.0 (on a 4-point scale) during the last 60 credits of an accredited undergraduate degree or an earned graduate degree;
3. Submit official transcripts from all colleges or universities attended;
4. Submit official GRE scores;
5. Submit a minimum of three letters of recommendation from undergraduate or research advisors. Strong unequivocal letters attesting to the applicant's educational background, motivation, analytical skills, and promise as a research scientist are important considerations;
6. Submit curriculum vitae and a statement of purpose highlighting future goals after obtaining the PhD degree;
7. International graduate student applicants whose native language is not English are required to submit a score for the TOEFL or for the IELTS. A total score of 80 on the internet-based TOEFL or 6.5 overall on the IELTS is required.

### Degree Requirements

The PhD in Biomedical Sciences requires a minimum of 81 post-baccalaureate credits, of which at least 24 credits are allocated for dissertation research. Students are required to maintain a cumulative GPA of 3.0 or higher.

### Coursework Requirements

#### Mandatory Courses

GMS 6103	Molecular Microbiology and Infectious Diseases	3
GMS 6220	Molecular Genetics and Cellular Biology	6
GMS 6481	Physiology and Immunology	4
GMS 6605	Basic Structure of the Human Body	3-4
GMS 6864	Principles of Clinical Epidemiology and Biostatistics	2
GMS 6939	Graduate Seminar	1
GMS 6940	Supervised Teaching in Biomedical Science	1
GMS 6942	Laboratory Rotations	1
GMS 6961	Qualifying Examination	5
GMS 6962	Formation of Committee: Appointment of Dissertation Committee: Preliminary Proposal	1
GMS 6963	Doctoral Dissertation Proposal	3
GMS 6964	Dissertation Proposal Seminar	1
GMS 6979	Research Credits	1-10
GMS 7980	Dissertation Research Credits	1-10
GMS 7981	Dissertation Defense Seminar	1

#### Elective Choices\* (5 credits minimum)

BME 6545	Biosensors and Nanobioelectronics	3
BSC 5459	Advanced Bioinformatics for Biologists	3
CGS 5166	Introduction to Bioinformatics Tools	2
CHM 5305	Graduate Biological Chemistry	3
CHM 6088	Environmental Chemistry of Trace Elements	3
CHM 6382	Advanced Biological Chemistry	3
GMS 6300	General Pathology	4
GMS 6500	Basic Pharmacology	4

GMS 6904 Introduction to Scientific Writing 3

*\*This is not a complete list of possible elective courses. The dissertation advisor or the Dissertation Advisory Committee, at their discretion, may suggest potential electives that are described in this Graduate Catalog.*

### Laboratory Rotations

Newly matriculating students perform research rotations in a minimum of three different faculty laboratories for 4 to 6 weeks each. Students choose faculty laboratories with the consent of those faculty members. The purpose of the rotations is threefold. First, each rotation period provides the student with an opportunity to evaluate the faculty member and laboratory. Second, the rotation provides the faculty member with an opportunity to evaluate the student. Third, rotations in diverse laboratories expose the student to a variety of methodologies and concepts. The rotation experience is an approved course (GMS 6942) with credit, and students receive a pass or fail grade based on an average of the evaluations of the three participating faculty members. Before beginning a rotation, students should discuss with the faculty member the expectations of the rotation and evaluation procedures. In the event that the student cannot make a decision on a major advisor after three rotations, or if a faculty member will not agree to be the student's supervisor, a fourth rotation is allowed. This requirement is waived if a student is supported by a grant.

### Supervised Teaching in Biomedical Science

Graduate students are required to register for one credit of GMS 6940 (Supervised Teaching) each semester they serve as teaching assistants. This requirement is waived if a student is supported by a grant or an external fellowship.

### Graduate Seminar

Graduate students are required to register for one credit of GMS 6939 (Graduate Seminar).

### Research Credits

Graduate students are required to complete at least 10 credits of GMS 6979 (Research Credits) involving research conducted in the PhD advisor's laboratory.

### Qualifying Examination

Students take a qualifying exam soon after completion of mandatory courses. The qualifying exam consists of two parts:

- Part I: The student submits a comprehensive review on a topic chosen by the Dissertation Advisory Committee (DAC);
- Part II: Oral defense of the entire comprehensive review paper submitted by the student.

### Doctoral Dissertation Proposal

After completion of the qualifying examination, a student must submit to DAC a doctoral dissertation proposal in the format for an AHA, National Institutes of Health (NIH), or National Science Foundation (NSF) predoctoral fellowship application.

### Dissertation Proposal Seminar

A seminar based on the student's proposal is presented and graded by the dissertation committee. The formal

admission to PhD candidacy occurs when the student successfully completes required courses and passes the qualifying exam, prepares a formal dissertation proposal, and successfully defends the content of the proposal before his or her advisory committee. Immediately following the proposal defense, the student's dissertation committee votes to admit the student to candidacy, to have the student resubmit the proposal within 6 months, or to dismiss the student from the PhD program. A student can only resubmit his or her proposal once. The dissertation committee should comprise at least five members, at least three of whom should be HWCOC graduate program faculty and at least one who is not a member of the HWCOC faculty and who holds a graduate faculty appointment.

### Dissertation Research Credits

At least 24 credits of GMS 7980 (Dissertation Research) are to be taken after the student has advanced to candidacy.

### Elective Course Requirement

Students must complete their elective requirements (5-credits minimum) before submitting their dissertations.

### Dissertation and Dissertation Defense Seminar

The DAC approves the major goals of a student's research project, monitors progress of student performance, and approves a target date for the dissertation defense. A prerequisite for the dissertation defense is publication or submission of peer-reviewed papers. It is expected that the student will be first or senior author on at least one of the peer-reviewed publications. The format of the dissertation should follow UGS guidelines. The dissertation defense takes place after the dissertation is submitted in a final form and approved by the DAC. Changes recommended at the time of the defense may be incorporated subsequently. The dissertation should be submitted to the DAC at least 4 weeks prior to the expected defense date to permit the members adequate opportunity for review. Review of the dissertation by an outside reviewer is encouraged. The defense of the dissertation is governed by the regulations established by the UGS. The dissertation defense includes a public seminar followed by defense of the dissertation to the DAC in closed session. Following the examination, the DAC evaluates the performance in the candidate's absence and votes to pass or fail the candidate. The record of the vote is recorded on the FIU UGS Defense of Dissertation Results form and submitted to the UGS office.

## Combined MD and Professional MBA Degree in Healthcare Management Pathway

HWCOC medical students in the third period of medical study may apply to the Masters of Business Administration (MBA) program. Each college (HWCOC and the College of Business) independently reviews and admits applicants to its programs. Only students admitted to both programs are permitted to enroll in classes in the combined degree pathway.

Combined degree pathway students complete the first 3 years of coursework in the MD degree program at HWCOC. At the beginning of the fourth period of study of

the MD degree program curriculum, students admitted to the combined degree pathway pause their medical studies and begin classes as part of the MBA program. Classes in the MBA program are taken during the fall and spring semesters of the medical student's fourth year of study. During this time, students complete 33 hours of course work in the MBA program. Nine credits taken through HWCOC count toward the 42 credits required for the MBA degree. Students also must complete three program residencies (face-to-face or online). At the beginning of the fifth year, students resume study in Period 4 of the MD degree program curriculum. Students who successfully complete all requirements graduate with both degrees at the end of the 5 years.

### Admissions Process:

To apply for admission to the combined MD and Professional MBA in Healthcare Management pathway, medical students in the summer or fall of their third year (prior to November 1) must be in good academic standing and must receive approval from the Medical Student Evaluation and Promotion Committee, the HWCOC Office of Student Affairs, and the HWCOC Office of Academic Affairs. Applications are reviewed by the program admission committee. Applicants to the combined degree pathway are not required to submit standardized test scores, but must have a minimum GPA of 3.0; applicants also are required to have completed 2 years of experience, which includes volunteering, internships or clerkships, and any full- or part-time employment.

## Certificate in Core Clinical Clerkships

The FIU Certificate in Core Clinical Clerkships program provides core clinical clerkship training to third-year medical students studying at medical schools with which HWCOC has established contractual partnerships. During the clinical clerkships, students complete medical preceptorships and experiences, working with faculty members in the care of patients in hospital and private practice settings. The program aims to train students in decision-making skills relevant to patient care, and to offer students an understanding and knowledge of the health care system. Students complete six clinical clerkships in these disciplines: internal medicine (12 weeks), family medicine (6 weeks), obstetrics and gynecology (6 weeks), surgery (12 weeks), psychiatry (6 weeks), and pediatrics (6 weeks) for a total of 48 weeks. Students are supervised by faculty members who are licensed and have expertise in their respective specialties. Performance is evaluated at the bedside and in other clinical settings. This certificate program is open only to non-degree-seeking students enrolled in programs at partner institutions.

### Core Clinical Clerkships Curriculum: 48 Credits

MDC 7200	Internal Medicine Clerkship	12
MDC 7120	Family Medicine Clerkship	5
MDC 7180	Obstetrics and Gynecology Clerkship	6
MDC 7600	Surgery Clerkship	12
MDC 7830	Psychiatry Clerkship	6
MDC 7400	Pediatrics Clerkship	7

## Combined MD and MPH -major in Epidemiology Pathway

The Herbert Wertheim College of Medicine (HWCOC) and the Robert Stempel College of Public Health and Social

Work (Stempel College) offer a combined degree pathway of a Master's of Public Health with a concentration in Epidemiology and a Doctor of Medicine.

An MPH is a professional public health degree emphasizing the understanding of population health and disease. The MD degree is a clinical medicine degree focusing on patient-centered clinical care.

Students may apply to the combined pathway in their third year of medical study. Each College will independently review and admit applicants to their programs. Only students admitted to both programs will enroll in classes in the combined pathway. Students will be expected to complete 45 credits for the MPH and all requirements for the MD degree.

Combined degree pathway students complete the first three years of coursework in the MD degree program at HWCOM. At the beginning of the fourth period of study of the MD degree program curriculum, students admitted to the combined degree pathway pause their medical studies and begin classes as part of the MPH program. Classes in the MPH program are taken during the fall, spring and summer semesters of the medical student's fourth year of study. During this time, students complete 36 hours of course work in the MPH program. Nine credits taken through HWCOM count toward the 45 credits required for the MPH degree.

At the beginning of the fifth year, students resume study in Period 4 of the MD degree program curriculum. Students who successfully complete all requirements graduate with both degrees at the end of the 5 years.

#### Admissions Process:

Medical students in the summer or fall of their third (M3) year (prior to November 1st) must make a formal application to the COM MPH Application Committee.

This application will include a personal statement. They must also get approval from the MSEPC and the Executive Associate Dean for Academic Affairs prior to applying to the MPH program.

Applications will only then be reviewed by the MPH - Epidemiology program admission committee. Applicants to the combined MD/MPH pathway will not be required to submit GRE scores. MCAT scores will be accepted.

## Graduate Certificate in Molecular and Biomedical Sciences

The Graduate Certificate in Molecular and Biomedical Sciences program seeks to provide academic enhancement and professional development to non-degree seeking applicants to health-related professional degree programs. The courses taught in this program offer a foundation for a better understanding of the courses taught during the first year of medical school. The certificate aims to strengthen the applicant's biomedical knowledge and enhance his or her professionalism skills to improve his or her future application to medical school or other health-related professional degree programs. This certificate program is open only to non-degree-seeking students.

#### Admission Requirements

Students applying for the Graduate Certificate in Molecular and Biomedical Sciences must meet the following requirements for admission:

1. Completed graduate certificate application
2. Bachelor's degree
3. US citizenship or permanent resident status

#### Required Courses: (20 credits)

BMS 6013	Medical Cell Biology and Biochemistry	3
BMS 6004	Medical Molecular Biology	3
BMS 6301	Medical Microbiology and Immunology	3
BMS 6501	Medical Physiology	3
BMS 6130	Pathology and Medical Histology	3
BMS 6003	Medical Genetics	3
GMS 6922	Professional Skills in Medical Sciences I	1
GMS 6923	Professional Skills in Medical Sciences II	1

## Course Descriptions

### Definition of Prefixes

BMS-Basic Medical Sciences; GMS-Graduate Medical Sciences; IHS-Interdisciplinary Health Sciences; MDC-Medicine Clinical Clerkships; MDE-Medical Electives; MDI-Medical Internships; MDR-Medical Research; MDS-Medical Selective; PAS-Physician Assistant

**Courses in the College of Medicine numbered BMSxxxx and MDCxxxx are restricted to students enrolled in the College of Medicine.**

**BMS 6001 Genes, Molecules & Cells (5-8).** The course is designed to introduce the fundamental concepts of cell and molecular biology, biochemistry and medical genetics as they relate to normal and disease processes. The topics will be covered in lectures, small group and whole class discussion and tutorial sessions. Prerequisite: currently enrolled in the College of Medicine.

**BMS 6002 Human Structure & Function (7).** This is an introduction to essential concepts of human structure and function with integration of the anatomical and physiological basis of several important clinical skills and procedures. Prerequisite: Enrolled in the College of Medicine.

**BMS 6003 Medical Genetics (3).** The course covers fundamental principles of medical genetics integrated with biochemistry, cell biology and molecular biology. Prerequisite: Enrollment in the HWCOM Graduate Certificate Program in Molecular and Biomedical Sciences.

**BMS 6004 Medical Molecular Biology (3).** The course covers fundamental concepts of prokaryotic and eukaryotic molecular biology, as they relate to human health and diseases. Prerequisites: Enrollment in the HWCOM Graduate Certificate Program in Molecular and Biomedical Sciences.

**BMS 6013 Medical Cell Biology and Biochemistry (3).** The course covers fundamental concepts of cell biology and biochemistry, as they relate to human health and diseases. Prerequisite: Enrollment in HWCOM Graduate Certificate in Molecular and Biomedical Sciences.

**BMS 6015 Clinical Skills I (4-6).** Clinical Skills I will focus on teaching the knowledge, skills and attitudes needed in areas such as communication, the physical examination and documentation. These skills are developed and refined using various teaching modalities and later integrated with more advanced clinical skills during the

Clinical Medicine II course. Prerequisite: Enrolled in the College of Medicine.

**BMS 6016 Clinical Skills II (1-12).** Clinical Medicine is a longitudinal “strand” throughout the four-year medical school curriculum. The strand is designed to provide students with the foundations of patient care that will prepare them for their clinical clerkship years. It will also provide them with the tools that will foster a lifetime of clinical competence. Prerequisite: Enrolled in College of Medicine.

**BMS 6064 End of Life Care (1).** This course teaches the basic concepts associated with end-of-life care for older adults. Emphasis is placed on symptom management, preparation for death, and support to older adults and their families. The goal is to develop knowledge of specific strategies to support end-of-life care planning among older patients, families and healthcare professionals. Prerequisite: Enrolled in the College of Medicine.

**BMS 6065 Quality Improvement and Medical Jurisprudence II (1). Quality Improvement in Health Care:** Improving the quality of health care in the US is a public health emergency. This course is designed to convey a sense of urgency and instill a commitment to lifelong quality improvement. A broad quality platform will be presented from the viewpoint of relevant stakeholders. Learners will be armed with critical tools to meet QI responsibilities throughout clinical practice.

**Medical Jurisprudence II:**

This course incorporates the basics of two professions, Medicine and Law. Physicians meet the law face to face every day, which is why students must be clear as to what purpose the law serves and how it affects medical practice. What are the patient’s rights, what are your legal obligations? This course will provide students with a framework for understanding the U.S. legal system’s structure and the application of law to the practice of medicine. Prerequisite: Enrolled in the College of Medicine.

**BMS 6066 Evidence-Based Medicine & Complimentary and Integrative Medicine (1-12).** This course is intended for students to acquire and develop both the knowledge and the skills for evidence-based medicine (EBM). The course covers the first four steps of EBM: formulating a structured clinical question (ask), finding the relevant evidence (acquire), appraising critically the risk of bias of the evidence and the importance of the results (appraise), and defining the applicability of evidence to patient care (apply). In addition, during this course students will use concepts obtained in previous epidemiology courses as they are applied to help solving clinical problems. This course also is an introduction to the most common complementary and integrative medicine therapies used by patients in the United States. Students interact with complementary and integrative medicine practitioners from different disciplines during workshops, review several cases in which patients use complementary and integrative medicine techniques, and discuss issues related to patient safety (EPA 13). Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6067 System Based Practice (1-12).** This course provides the student with a fundamental understanding of the U.S. healthcare delivery systems, policies that shape

healthcare, and the Quality and Safety movement. Prerequisite: Enrolled in the College of Medicine.

**BMS 6071 Community-Engaged Physician I (5).** The Community-Engaged Physician I course is part of the Medicine and Society strand and encompasses the Green Family Foundation Neighborhood Health Education Learning Program (NeighborhoodHELP). This service-learning course integrates the community engaged household visit experiences of NeighborhoodHELP with active learning class sessions. It aims to provide students the skills to assess the social determinants of health while simultaneously providing household-centered care in collaborative interprofessional teams. Students will learn the fundamentals of health education, health promotion, appropriate screening and preventive health services, and chronic disease management while having the opportunity to reflect critically on these activities during their household visits. With its emphasis on community medicine, the course also builds on concepts of population health and health disparities introduced in prior courses and culminates in a community-based group project. Prerequisite: Enrolled in the College of Medicine.

**BMS 6100 Structure of the Human Body (1-12).** This course is designed to introduce first-year medical students to essential concepts of the structure of the human body, including early human development, composition of different tissues, and organ morphology. Basic concepts of embryology, histology, gross anatomy and neuroanatomy from the microscopic to the organ system level are taught as the foundation for an in-depth understanding of the physiology of the human body and of clinical medicine. Lectures, laboratory sessions, application exercises, and case presentations are used to deliver course objectives.. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6130 Pathology and Medical Histology (3).** Introductory course in the study of normal tissues and organs and how these are affected by disease. Prerequisite: Enrollment in the HWCOCM Graduate Certificate in Molecular and Biomedical Sciences.

**BMS 6301 Medical Microbiology and Immunology (3).** The course is designed to introduce the students to the general principles of infectious, host responses and the pathogen’s evasion that are relevant for a foundation in clinical medicine. Prerequisite: Enrollment in the HWCOCM Graduate Certificate Program in Molecular and Biomedical Sciences.

**BMS 6400 Pharmacology (4).** This course introduces medical students to the basic principles of pharmacology and to the primary classes of drug therapy including the prototypic agents. The main goal of the medical training (curriculum) is to develop the diagnostic and therapeutic skills (competencies) required by a basic doctor. Safe and effective prescribing is such a core competency. In addition learning should provide an appropriate framework fostering the ability to assimilate information about new drug development that will occur throughout a professional career (self-directing learning). The Pharmacology teaching is designed with this final goal (to attain a core competency) in mind and reflects the paradigm shift from a process focused education to an outcome oriented education. Prerequisite: currently enrolled in the College of Medicine.



**BMS 6500 Integrated Functions of the Human Body (1-12).** The course is designed to introduce first year medical students to essential concepts of physiology and immunology. The goal is to provide the students with a strong foundation relevant to their understanding of pathological conditions and to their future diagnostic and therapeutic decision making. Physiology is taught using an organ system approach, emphasizing the interplay of molecules, cells, tissues, organs and systems to maintain normal function of the human body. Normal and abnormal functions of the immune system are introduced. Integration of immunology with organ system physiology is emphasized. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6501 Medical Physiology (3).** The course is designed to introduce the students to essential concepts of medical physiology. Prerequisite: Enrollment in the HWCOC Graduate Certificate Program in Molecular and Biomedical Sciences.

**BMS 6603 Pathology and Infectious Disease (1-12).** Pathology and Infectious Disease is an introductory course in the study of disease and the general principles of infectious disease. The Pathology component of the course emphasizes general concepts and vocabulary to lay the foundation for the subsequent courses within the organ systems modules. Areas covered in this course include: cellular adaptations; necrosis; apoptosis; inflammation; repair; hemodynamic disorders; neoplasia; pathology as it relates to genetic, nutritional/environmental factors; and an introduction to forensic medicine and pediatric and genetic disorders. During this course, students learn general concepts relating to clinical laboratory medicine and regulatory organizations allied to the field of medicine and hospital oversight in a 2 hour lecture referred to as Fundamentals of Laboratory Medicine, followed by a 1-hour practical in the classroom. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6631 Hematopoietic and Lymphoreticular Systems (3).** This course is designed to provide the fundamental ground knowledge as it relates to the understanding of hematologic diseases, the clinical approach to a patient with a hematologic disease, and the initial approach to the use of various chemotherapeutic drugs. Discussions include the mechanisms of disease and the molecular bases that explain the disease process, the clinical features of different disorders (genetic or acquired), and descriptions of the morphologic features of these diseases based on the most current available and clinically applicable information. Prerequisite: Enrolled in the College of Medicine.

**BMS 6632 Endocrine System (3).** The Endocrine System course: (1) Introduces medical students to the abnormal processes and principal therapies of endocrine disorders, building upon the specific topics discussed in the course Integrated Functions of the Human Body and Structure of the Human Body; (2) Advances medical students' knowledge and comprehension of the aforementioned disorders and therapeutic modalities, including the influence and effects of gender, ethnicity, and behavior of patients on specific endocrine diseases. To provide an interactive teaching and learning environment, the course includes 'question and answer' sessions interspersed during the lectures as well as case discussions. A solid

understanding of normal endocrine processes (including hormone synthesis, secretion, action, and metabolism) and anatomy and function of endocrine organs are required to successfully master this course. Prerequisite: Enrolled in the College of Medicine.

**BMS 6633 Cardiovascular and Respiratory Systems (6).** The course is an introductory learning opportunity to gain the basic concepts of cardiac and pulmonary medicine. The course will review the cardiopulmonary structures and anatomic and physiologic relationships and their integration to clinical medicine. The course will cover abnormal cardiovascular and pulmonary structures and physiology and the associated mechanisms of the related diseases. The clinical manifestations of derangements of the cardiopulmonary system will be reviewed. The student will be introduced to the diagnostic and therapeutic interventions in cardiopulmonary disease. Case based approach, group discussions, simulations and didactic presentations with some exposure to clinical skill will be used to achieve course objectives. Prerequisite: Enrolled in the College of Medicine.

**BMS 6634 Gastrointestinal System and Medical Nutrition (4).** This course is designed to introduce second year medical students to the principles of diseases affecting the human body's digestive system. The course will cover conditions affecting the hollow viscera (esophagus, stomach, small intestine and colon) as well as solid organs that are part of the digestive system (liver and pancreas). Clinical cases will be used to introduce students to critical medical thinking and problem-based learning. Integration of anatomy, physiology, immunology and histology will be emphasized. Prerequisite: Enrolled in the College of Medicine.

**BMS 6635 Musculoskeletal Systems (1-5).** This second-year course provides the medical student the opportunity to learn the normal development, structure, and function of the musculoskeletal system, expanding on the foundations from the first-year anatomy course. Common congenital and acquired pathologic conditions and the interpretation of diagnostic tests and basic treatment options are reviewed. The following areas are emphasized: effects of environment, nutrition, exercise, and aging on bone and joint homeostasis; radiological assessment and correlation with pathoanatomy; and the bases of autoimmunity, rheumatologic diseases, and inflammatory disorders. The course provides opportunities to learn and assess application of pathophysiologic reasoning as well as clinical, laboratory, and radiologic findings to assist in differential diagnosis with review of treatment strategies. Prerequisite: Enrolled in the College of Medicine.

**BMS 6636 Nervous System and Behavior I (1-12).** This course provides an integrated, multidisciplinary overview of the structural and functional relationships of the central and peripheral nervous systems under both healthy and diseased conditions. The course covers essential concepts in normal and pathologically altered neurological functions (using neuroanatomy, neurophysiology, neuropharmacology, neuropathology, and clinical neurology). Students learn to diagnose and locate the causes of abnormal neurological function by identifying a patient's symptoms and then locating the source of the problem within the nervous system. The format of the course includes lectures, laboratory work, small-group case- based discussions, and a select number of clinical

correlates presented through a variety of application exercises.

**BMS 6637 Reproductive Systems (3).** Reproductive Systems provides an overview of the development of the male and female reproductive systems with a focus on abnormalities of sexual differentiation and function, the physiology of control of the menstrual cycle, conception, infertility, menopause and pregnancy. In addition, the pathophysiology of the male reproductive system will be covered. Prerequisite: Enrolled in the College of Medicine.

**BMS 6638 Renal System (1-12).** This course is an introduction to the study of the Renal System. It will help the student integrate what they have learned in previous courses (e.g. Anatomy, Physiology, Biochemistry, Genetics, Epidemiology, Histology, and Pharmacology), lead to an understanding of the mechanisms of diseases involving the kidneys. Prerequisite: Enrolled in the College of Medicine.

**BMS 6643 Integumentary System: The Skin (1-5).** This course provides the medical student the opportunity to learn the normal development, structure, and function of the integumentary system. Common congenital and acquired pathologic conditions and the interpretation of diagnostic tests and basic treatment options are reviewed. The course also provides opportunities to learn and assess application of pathophysiologic reasoning, and clinical, laboratory and radiologic findings to differential diagnosis. Prerequisite: Enrolled in the College of Medicine.

**BMS 6820 Humanism and Medical Jurisprudence (1-12).** The course is design to challenge the student to understand the global (east vs. west) interpretation of compassion, empathy and awareness as well as understanding the self. It will provide a broad sense of one's own awareness of the self as brought forth by ones social, religious, economic, family and education experiences. Prerequisite: Enrolled in the College of Medicine.

**BMS 6826 Ethical Foundation of Medicine (1).** This course gives students a foundation in bioethics and the obligations of medical practice as coming from a social contract. It serves as the foundational course to prepare students to make daily ethical decisions related to ethical issues, challenges, and dilemmas they will encounter as students and socially accountable physicians. The course provides historical background on the social and moral foundations of modern medicine. Students review the major medical oaths and codes; work through cases; and analyze the ethical basis of decision-making by focusing on informed consent and advance care planning. They discuss the social and cultural factors in patient-doctor interaction, including implicit bias. Students are also introduced to the role and value of the humanities and arts in medicine. Prerequisite: Enrolled in the College of Medicine.

**BMS 6827 Foundations for the Community-Engaged Physician (1-12).** This course will serve as an introduction to the Community Engaged Physician course series, the longitudinal service-learning program that encompasses the Green Family Foundation Neighborhood Health Education Learning Program (NeighborhoodHELP). It aims to provide a foundation of empirical knowledge for understanding and promoting health in communities and

populations with special emphasis on cultural humility, disparities, and social determinants of health. Students also begin to develop collaborative skills to work effectively as part of interprofessional teams. Prerequisite: Currently enrolled in the College of Medicine.

**BMS 6840 Nervous System and Behavior II (1-12).** The course presents the fundamentals of psychiatry and psychological principles that are the foundation for clinical work in Period 3. These principles include psychiatric diagnoses and treatment, cognitive neuroscience, cognitive and emotional development, and principles of psychopharmacology and psychotherapy. Instructional methods include interactive processes such as team-based learning and problem-based learning as well as traditional lectures. Independent study and preparation prior to group activities is an integral part of the learning process. Prerequisite: Enrolled in HWC0M.

**BMS 6880 Clinical Epidemiology and Quantitative Research (1-12).** This course is an introduction to the study of measurement and quantitative methods and of the elements and foundations of epidemiology and research. The main perspective is the use of those methods at clinical settings or to address clinical problems (Clinical Epidemiology) in the practice and research of medicine. Concepts from the sciences of Biostatistics and Clinical Epidemiology will be presented to the student in theory and problem-based scenarios. Prerequisite: Enrolled in the College of Medicine.

**BMS 6891 Professional Behavior I (1).** Professional Behavior I is a course within Professional Development designed to introduce and teach awareness of certain values, emotions and attitudes, behaviors and self-reflection to the medical student. This course applies the philosophy and general understanding for emotionally preparing the future physician for the many diverse psychological experiences associated with the clinical setting and professional life. Specifically, to have an understanding and awareness of one's behavioral and personal issues, the emotional stress found in practicing medicine, and how these can impact patient care and health outcomes. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6892 Professional Behavior II (1).** This course is a continuation of the Period One Professional Behaviors experience. Where the focus of the course during Period One was on "self-awareness," Period Two goes more into depth in the development of self-awareness and the development of the emerging "MD Identity." Class sessions are structured using the same approach with the introduction, history, development and implications of the Values, Emotions and Attitudes (VEA) on medical practice. However, the vignettes are more evidence-based and discussions include reflections of the student's clinical experiences as they relate to the VEA. Additionally, the VEAs presented in the class session are more comprehensive and identify greater implications for the MD. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 7810 Core Concepts in Medicine (5-7).** The major themes of Osler Friday are student-driven inquiry, learning and teaching with integration of the 6 core competencies of medical education. Problem-based learning in small groups followed by large group consultation with

specialists will serve as the primary learning format. Individual and pair assignments in critical appraisal, clinical application of statistics, and a group assignment in case development will also support the course learning objectives. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 8910 Directed Study (1-3).** Medical students engaged in individual research under the supervision of the COM faculty. Prerequisite: Enrolled in the College of Medicine.

**GMS 6065 Molecular Oncology (3).** This course will introduce students to fundamental areas of cancer biology, and provide students with a detailed understanding of emerging topics in molecular and clinical oncology. Prerequisite: GMS 6220 and GMS 6481

**GMS 6103 Molecular Microbiology and Infectious Diseases (3).** This course introduces the general principles of infectious diseases and the host response to infection. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6220 Molecular Genetics and Cellular Biology (6).** The course gives graduate students an introduction to fundamental concepts in biochemistry, cellular and molecular biology, and genetics with an emphasis on medically-relevant themes. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6300 General Pathology (4).** This course introduces the molecular and genetic basis of human diseases while emphasizing the basic pathologic processes and vocabulary. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6481 Physiology and Immunology (4).** This course introduces students to the fundamental concepts of physiology and immunology from a biomedical perspective that will assist in evaluating pathology and therapeutic target options. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6500 Basic Pharmacology (4).** This course is an introduction to the basic principles of pharmacology and provides an overview of drugs from a molecular, cellular, and basic science perspective. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6605 Basic Structure of the Human Body (3-4).** This course gives graduate students an introduction to basic concepts of human anatomy, including embryology, histology, gross anatomy and neuroanatomy. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6864 Principles of Clinical Epidemiology and Biostatistics (2).** This course provides an introduction to the elements and foundations of epidemiology and biostatistics. Prerequisites: Currently enrolled in the HWCOCM PhD program and permission of the course director.

**GMS 6904 Introduction to Scientific Writing (3).** The introductory course designed to teach the students to design, write, and present scientific papers and grant

applications. Prerequisite: HWCOCM Graduate School Enrollment.

**GMS 6922 Professional Skills in Medical Sciences I (1).** The course provides students with a small structured learning environment in which to analyze the relationships between concepts and develop the ability to evaluate and integrate information. Prerequisite: Enrollment in the HWCOCM Graduate Certificate Program in Molecular and Biomedical Sciences.

**GMS 6923 Professional Skills in Medical Sciences II (1).** Provide students with a small structured learning environment in which to analyze the relationships between concepts and develop the ability to evaluate and integrate information. Prerequisite: Enrollment in the HWCOCM Graduate Certificate Program in Molecular and Biomedical Sciences.

**GMS 6939 Graduate Seminar (1).** A weekly seminar/discussion course consisting of research presentations by students, faculty, and visiting scientists in the area of biomedical sciences will form part of a recurring credit. Prerequisite: HWCOCM Graduate School Enrollment.

**GMS 6940 Supervised Teaching in Biomedical Science (1).** Students will assist the faculty members who teach either graduate or medical students. Prerequisite: HWCOCM Graduate School Enrollment.

**GMS 6942 Laboratory Rotations (1).** Laboratory rotations in specific laboratories of the HWCOCM graduate program faculty that will eventually lead to the choice of a thesis laboratory. Prerequisite: HWCOCM Graduate School Enrollment.

**GMS 6961 Qualifying Examination (5).** The purpose of the Qualifying Examination is to confirm the readiness of the graduate student to conduct PhD research. Prerequisite: HWCOCM Graduate School Enrollment. Corequisites: Completion of all mandatory courses.

**GMS 6962 Formation of Committee: Appointment of Dissertation Committee: Preliminary Proposal (1).** The student submits preliminary research proposal approved by his/her committee. Prerequisite: HWCOCM Graduate School Enrollment.

**GMS 6963 Doctoral Dissertation Proposal (3).** Doctoral Dissertation Proposal written in the style of an AHA, NIH or NSF predoctoral fellowship application. Prerequisite: HWCOCM Graduate School Enrollment. Corequisites: Completion of GMS 6961, advisor.

**GMS 6964 Dissertation Proposal Seminar (1).** After completion of the Qualifying Examination (QE) and Dissertation proposal approval the student must present his proposal to the Dissertation Committee. The student will give a PowerPoint presentation the proposed research to the members of the dissertation committee. The dissertation committee will specifically evaluate the following: (i) Has the student demonstrated the ability to design a feasible project? (ii) Has the student shown a reasonable knowledge of the literature regarding the project? (iii) Has the student presented the proposal (both written and oral) in a scholarly fashion? (iv) Has the student demonstrated competent scientific knowledge with respect to overall fundamental principles and applications in biomedical science? and (v) Does the proposed

research constitute an acceptable and feasible dissertation project? This will be achieved through an oral question and answer component within the scheduled time of the dissertation proposal exam meeting. The chairman of the dissertation committee will (i) insure that the proposal exam is held to a reasonable length of time; (ii) insure that the student is evaluated fairly and rigorously; and (iii) see that a written evaluation is promptly prepared and sent to the student and to the director of the graduate program. Prerequisite: HWCOCOM Graduate School Enrollment. Corequisites: Completion of GMS 6961, GMS 6963, and permission of the advisor.

**GMS 6979 Research Credits (1-10).** Research conducted in the PhD advisor's laboratory. May be repeated. Prerequisite: HWCOCOM Graduate School Enrollment.

**GMS 7603 Anatomy of the Musculoskeletal System (2).** This course gives Doctor of Physical Therapy (DPT) students a solid working knowledge of the functional anatomy of the back and limbs, including bones, joints, muscles, nerves and blood vessels. This will form the anatomical basis for an in-depth understanding of related pathological conditions, clinical examination and therapeutic interventions. Course objectives will be delivered by lectures and different types of laboratory sessions. Prerequisite: Admission into the Doctor of Physical Therapy Program. Corequisite: GMS 6605.

**GMS 7980 Dissertation Research Credits (1-10).** Research towards the completion of a doctoral dissertation. May be repeated. Prerequisite: HWCOCOM Graduate School Enrollment. Corequisites: Completion of GMS 6961, GMS 6964 and permission of the major professor.

**GMS 7981 Dissertation Defense Seminar (1).** Dissertation defense seminar. Prerequisite: HWCOCOM Graduate School Enrollment. Corequisites: Permission of major professor and graduate committee.

**IHS 6116 Interprofessional Health Ethics (1).** This online course will introduce graduate students in health sciences and biomedical engineering to ethical issues that emerge in teams which contribute to or support health care delivery, services, promotion, research, and the design, manufacture and marketing of health products (e.g. drugs and devices). In five modules, students will have the opportunity on their own and in interprofessional groups to engage critically with controversial topics in clinical ethics, research ethics and public-health/population health, such as assisted reproduction, transplant and regenerative medicine, research integrity and false claims to authorship, the marketing of drugs and medical devices, the treatment of infectious diseases, personal responsibility for health, and social determinants of health. In addition, students will learn the ethical commitments of their own and other health professions to determine where they overlap and where differences in scopes of practice may lead to ethical dilemmas. Prerequisites: Admission to a graduate program in health sciences at FIU or permission of the instructor.

**MDC 6102 Community-Engaged Physician II (1-12).** This course is a continuation of the Community Engaged Physician I course and the longitudinal NeighborhoodHELP service-learning program that reinforces concepts offered earlier in the Medicine and Society strand. Through NeighborhoodHELP, the course

offers opportunities for students to apply what they have learned and to reflect critically on their service-learning experiences. During their household visits, students will address the social and health needs of households, develop care plans in interprofessional teams, and integrate learning from their Clinical Medicine courses. Prerequisite: Enrolled in College of Medicine.

**MDC 6103 Community-Engaged Physician III (1-12).** This course is a continuation of the Community Engaged Physician II course and the longitudinal NeighborhoodHELP service-learning program that reinforces concepts offered earlier in the Medicine and Society strand. Through NeighborhoodHELP, the course offers opportunities for students to apply what they have learned and to reflect critically on their service-learning experiences. During their household visits, students will address the social and health needs of households, develop care plans in interprofessional teams, and integrate learning from their Clinical Medicine courses. Prerequisite: Enrolled in College of Medicine.

**MDC 7120 Family Medicine Clerkship (1-12).** Family medicine is the specialty that focuses on care for the whole person regardless of age, sex, or disease, set within his or her social and community context. The Period 3 Family Medicine Clerkship is a practical opportunity for students to demonstrate progressive skill development, integrating their knowledge of basic and social sciences, clinical skills, professional development, and social accountability. Under the supervision of FIU Family Medicine faculty, students conduct and document histories, physical exams, assessments, and management plans while providing patient education. The course is aimed at preparing students for Period 4 rotations and their future careers as physicians, regardless of the specialty they ultimately choose. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7124 Geriatrics (2).** During the 2-week Geriatrics, students will actively participate in the ongoing, daily care of older adults who have a wide variety of acute and chronic illnesses and abnormal physical findings. Throughout the clerkship students will work with a variety of geriatric focused health professionals as part of the interdisciplinary care team. This includes physicians, nurse practitioners, therapists, certified nursing assistants, and social workers. It is expected that throughout the course of the 2-week clerkship students will be involved with and responsible for admission assessment, discharge planning, ongoing care and management, and working with families. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7180 Obstetrics and Gynecology Clerkship (6-7).** The Obstetrics and Gynecology Clerkship offers third-year medical students a rotation in the core discipline of women's health. The gynecologist and obstetrician are involved in every facet of women's health care maintenance and delivery throughout the patient's lifespan. They provide care from prepubertal and early menarche; act as primary care providers for healthy women; help women experience the joy of normal pregnancy and delivery; and provide care during crises of infertility, pregnancy loss, and cancer. Therefore, a general understanding of the field is important to the development of a well-rounded primary care physician. Medical students are exposed to all aspects of the

specialty, including ambulatory clinics, hospital inpatient wards, the operating room, emergency room visits and consults, radiology, and the labor and delivery suite. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7200 Internal Medicine Clerkship (9-12).** The Period 3 Internal Medicine Clerkship occurs in consecutive rotations. This clerkship has two components, ambulatory and hospital-based, and is designed to provide medical students with a foundation of knowledge, skills, and attitudes necessary to approach and care for adult patients in outpatient and hospital settings. Students' primary work is done under direct supervision of internal medicine preceptors from the community, the public health system, and the academic setting. The Internal Medicine Clerkship emphasizes basic assessment and management of core common problems in internal medicine, including identifying patient problems, establishing a differential diagnosis, and planning an appropriate evaluation and treatment in preparation for an increased independence in management and therapeutics during Period 4. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7400 Pediatrics Clerkship (7-9).** The Core Pediatric Clerkship will provide students with experiences in the evaluation, diagnosis, and management of pediatric patients. Through both inpatient and outpatient clinical experiences, students will be exposed to a wide variety of pediatric patients presenting with acute illnesses, chronic illnesses, and health maintenance needs. Students will actively participate in clinical cases, simulated cases, simulation laboratory scenarios, and didactic lectures. The clerkship emphasizes the basic skills of assessment and management of common pediatric problems. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7600 Surgery Clerkship (9-12).** This clerkship will provide students with experience in the recognition and management of surgical disease and in basic surgical techniques. During this clerkship students will develop understanding of the scientific basis of surgical diseases and disorders. Students will then learn to perform assessments and develop differential diagnoses for these surgical presentations. Students will learn through participating in preoperative care, operative procedures, outpatient surgery clinics and didactic experiences on management of surgical diseases. Students will also learn how to evaluate normal and complicated postoperative recovery with surgical inpatients and outpatients. Upon completion of the surgery clerkship, students will also fully understand norms of professional behavior by working effectively with patients and families as a member of the health care team. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7760 Radiology Clerkship (2-3).** The Radiology Clerkship takes place entirely at FIU Campus AHC2. The clerkship is a largely self-directed online study of selected resources and developed PowerPoint presentations together with directed reading of required text and articles. Progress in understanding of the concepts provided will be assessed by frequent MCQ examinations. This clerkship will provide medical students with a basic understanding of the common techniques used in medical imaging, the evidence-based choice of appropriate studies for given

clinical symptoms, the potential complications and side effects of such studies and the interpretation of medical imaging studies of common clinical conditions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7800 Neurology Clerkship (3-5).** The Neurology Clerkship takes place at various sites. This clerkship has three components: ambulatory, didactic, and hospital-based. This clerkship provides medical students with experience in general and specialty neurology. Students learn to diagnose and treat nonemergent neurological disorders in the outpatient setting and neurological emergencies in the inpatient setting. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDC 7830 Psychiatry Clerkship (6-7).** The course introduces Period 3 medical students to general and specialty psychiatry and allows students to develop competencies in diagnosing and treating psychiatric disorders. The structure of the clerkship ensures that students receive exposure to different clinical practice settings, including emergency department (ED), inpatient, outpatient, and consultation-liaison services. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7010 Directed Clinical Study (0).** Students will follow (shadow) a physician at varied institutions to observe daily activities. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7048 Narrative Medicine Elective (1-12).** Pioneered by Rita Charon, narrative medicine trains doctors and other caregivers to use careful listening and reflective writing to forge deeper connections with their patients, resulting in the provision of better care and the promotion of physician wellness. The narrative medicine elective is offered as a two-week rotation, with the option for students to enroll in an additional two-credit longitudinal component. During this elective, students will have the opportunity to explore different types of narrative medicine writing—including the parallel chart, 55-word stories, poetry and using narratives as an advocacy tool. Students will participate in discussion sessions about assigned readings; participate in small group writing workshops; and share their writing with their peers. The course director will create individualized writing plans tailored to students' specific interests, objectives, and clinical schedules. Students will write a total, including drafts, of about 10,000 words. Prerequisite: Enrolled in HWC0M.

**MDE 7053 Medicine and Society Elective (1-12).** The Medicine and Society elective is designed for individualized study and further pursuit of topics relevant to the Medicine and Society strand's mission to improve health outcomes for underserved communities in the delivery of care through the educational objectives on social determinants of health and policy. Students design an independent study experience under the tutelage of Medicine and Society or other Humanities, Health, and Society faculty. Potential projects include pursuit of a policy initiative in collaboration with Law, a cultural competency project, or an intensive community-based health initiative. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7059 Community Medicine Practicum (1-4).** This longitudinal course aims to increase students'

competencies in population health and community needs assessment. Students are evaluated based on their development of a community health written assignment and health promotion plan alongside a service-learning practicum portfolio. A final reflection assignment helps students more deeply understand the importance of social accountability, critical and ethical thinking, and working with underserved/disadvantaged communities. This course develops students' skills and insights into community assessments and efforts that address the social determinants of health on a population level. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7061 Seminars in Physician Leadership Elective (2-4).** This course introduces medical students to the foundations of leadership principles and how they apply to the practice of medicine. The course covers four interrelated topics: 1) foundations of leadership; 2) managing common resources to maximize social welfare; 3) anticipating and responding to change at social, organizational, and individual levels; and 4) paradoxes in leadership in a complex world. Case studies are used to introduce students to critical leadership thinking and problem-based learning. Prerequisite: Enrolled in HWCWM

**MDE 7067 Professional Development and Clinical Medicine Capstone (1-5).** Professional Development: The Professional Development Capstone is explicitly designed to address anticipated expectations of Professionalism in the first few months of residency and beyond. Additionally, the Capstone in Professional Development is intended to serve as a review of relevant topics for Internship and the introduction of specific practical topics not otherwise covered in the curriculum.

The Capstone is divided into learning modules:

1. Achieving successful residency experience
2. Self and personal growth for life
3. Thriving in the business of medicine and personal business affairs
4. Practice Management
5. Home Health Care
6. Occupational Medicine

Clinical Medicine: The Clinical Medicine Capstone or Transition to Residency is a required course, lasting approximately two weeks immediately prior to graduation and will be taught in a large groups as well as small groups/workshop format. Since students will be embarking on different career paths, after graduation there will be choices of several sessions to attend, based on individual interests as well as topics which are of relevance to all. Attendance is mandatory and will be tracked, with attendance at XXX% of sessions being required for a passing grade. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7092 Medical Education (1-12).** This is a non-clinical elective offered for two or four continuous weeks, designed to help students improve their teaching and/or curricular development skills through small-group, self-directed, experiential learning, and mentor feedback and engagement in authentic work. In this course, students will be provided with opportunities to learn about the foundational principles of adult learning theory, curriculum design, pedagogy, assessment, and teaching in the clinical setting. Prerequisite: Enrolled in HWCWM. Prerequisite: Enrolled in HWCWM.

**MDE 7096 Small Group Teaching Skills Elective (4).** This is a non-clinical elective offered for two weeks, designed to help students improve their small group teaching skills through self-directed, experiential learning and mentor feedback and engagement in authentic work. Upon successful completion of this elective, the student will be able to apply principles of small group teaching educational theory and evidence to improve their knowledge of small group teaching and their ability to teach in small groups. Prerequisite: Enrolled in HWCWM.

**MDE 7100 Community Medicine Elective (1-12).** This intensive ambulatory block will serve as a community based primary care experience. Students will be assigned a community based public clinic. Under the supervision of community based FIU faculty, the student will assume a level of independence appropriate to a fourth year student. Students will practice communication, diagnosis skills, clinical reasoning, management of common ambulatory clinical scenarios, and patient education and negotiation, and receive feedback. The class will be a one month block at a single site, or split in two rotations blocks of two weeks each. Experiences may include any of the specialties (e.g. family medicine, internal medicine, pediatrics, obstetrics and gynecology, psychiatry, psychology) found at these clinics. Two weeks rotations are possible in areas like Palliative Care, Hospice, Community Mental Health, Sports Medicine, Rural Medicine, Indian Health Service Medicine, International Medicine, and Complementary and Alternative Medicine. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7102 Public Health Elective (1-12).** This elective introduces students to the practice of public health for physicians. Students are assigned a site preceptor (MD/PhD or MD/MPH). Experiences and activities are tailored to individual student interests; a minimum of 50 percent of the rotation is spent at health department clinics. Students create and present a final public health research project. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7103 Community Medicine (1-12).** This intensive ambulatory block will serve as a community based primary care sub-internship. Students will be assigned to work under the supervision of FIU faculty at a community health center for the duration of the rotation. Students will practice patient communication skills and clinical reasoning and diagnostic skills, while honing their abilities to manage common ambulatory clinical scenarios. Students will be expected to actively participate in patient care with a level of skill and independence appropriate to their level of training. Clinical experiences may include any of the specialties (e.g. family medicine, internal medicine, pediatrics, obstetrics and gynecology, psychiatry, psychology) found at the participating clinics. Two-week rotations are possible in fields such as Palliative Care, Hospice, Community Mental Health, Sports Medicine, Rural Medicine, Indian Health Service Medicine, International Medicine, and Complementary and Alternative Medicine. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7108 LGBTQ + Healthy Equity Elective (1-12).** This four-week elective will provide medical students with the essential background and tools needed to provide high-quality and culturally appropriate care to patients who

identify as LGBTQ (Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning), gender non-conforming, or who are born with differences of sex development. Medical students will choose to follow a clinical and/or public health track. Through the clinical track, students will diagnose, treat and provide preventative care to LGBTQ and gender non-conforming patients through clinical assignments with health providers who work primarily with this patient population. Through the public health track, students will assess and intervene regarding the behavioral, social and cultural determinants of health and their impact on the health status of LGBTQ populations. In both tracks, students will produce a public health, research, medical education, or advocacy project related to LGBTQ health. Prerequisite: Enrolled in Herbert Wertheim College of Medicine

**MDE 7120 Family Medicine Elective (1-12).** This intensive ambulatory or inpatient block is particularly suited to students interested in primary care. Students will be assigned to either an inpatient or outpatient Family Medicine experience. Under the supervision of Fill faculty, the student will assume a level of independence appropriate to a fourth year student. For each patient s/he sees, the student will be responsible for the history and physical, writing a note, presenting the case to the supervising faculty member, and putting the agreed-upon management plan into action. Through this process, students will hone their patient communication skills, diagnostic skills and clinical reasoning, development of management plans for common ambulatory or inpatient clinical scenarios, and execution of patient education. Students will attend all departmental rounds and teaching activities, as well as complete any relevant reading assignments. Students will be provided with regular feedback from the supervising physician. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7121 Primary Care Sports Medicine Elective (1-12).** Outpatient clinical rotation that provides a comprehensive spectrum of evaluation and management of both medical illness and orthopedic injury as it relates to musculoskeletal medicine. Students will diagnose, treat and help prevent general medical problems and injuries in athletes of both genders, in all age groups and at all levels of competition, and individuals who are active or anticipating exercise activities. The care of the athlete will include performance of pre-participation sports physicals, assessment of common medical problems and musculoskeletal injuries, as well as treatment and rehabilitation of these conditions. The student will learn nonsurgical treatments for acute and overuse musculoskeletal problems to minimize time away from sports, school or work. The student will also treat chronic problems such as osteoarthritis to help minimize disability and maximize function, develop skills in conservative fracture management with splinting and casting and may be involved in sideline coverage of sporting events. The student will also be exposed to musculoskeletal ultrasound diagnostics and injections. Prerequisite: Enrolled in HWCOC.

**MDE 7140 Geriatric Medicine Elective (1-12).** The Geriatric Medicine Elective is designed to allow fourth-year medical students the opportunity to participate with increased responsibility in the care of geriatric patients. Students learn the various components of a

comprehensive work-up (e.g., functional scales, mini-mental exam). Students participate with the geriatric team in hospital consultations and follow-ups. This rotation is designed to supplement and introduce students to aspects of geriatrics not fully covered on a busy internal medicine inpatient and outpatient service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7161 Obstetrics and Gynecology Elective (1-12).** The fourth year clinical electives in the Department of Obstetrics and Gynecology offer the student the opportunity to enhance his/her skills in outpatient diagnosis and management. The student is expected to attend according to the schedule agreed upon with the supervisor, including call duty, rounds, etc. Students with specific learning objectives for their experience should arrange a time to meet with the supervisor to discuss them. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7162 Gynecologic Oncology Elective (1-12).** This four week elective is intended for students who have already completed the basic core clerkship in OB/GYN and are interested in enhancing their exposure to the subspecialty of Gynecologic Oncology. The student will be provided experience in the inpatient and outpatient management of patients with pre-malignant and malignant conditions of the genital tract. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7166 Gynecologic Surgery Elective (1-12).** This four week course will introduce the student to gynecologic care in the adult female, ranging from routine care to the evaluation and surgical treatment of complex gynecologic conditions. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7180 Perinatology/Maternal Fetal Medicine Elective (1-12).** This Period 4 clerkship allows students to experience the full range of maternal-fetal medicine and familiarizes students with the diagnosis and management of pregnant patients who have obstetrical, medical, or surgical complications. Students receive experience in ultrasound, genetics, genetic counseling, and the management of high-risk obstetrical patients. Students follow patients through the inpatient antepartum service and participate in the care of high-risk obstetrical patients admitted to the hospital. Attendance at the following conferences is required: FHR tracing and labor management review, high risk obstetrics conference, grand rounds, prenatal - neonatology conference, and journal club. Students are required to take call on the Labor and Delivery Unit one night per week. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7201 Advanced Internal Medicine (1-12).** The Advanced Internal Medicine (IM) rotation allows fourth-year students the opportunity to participate, as members of a team in IM hospitalist service and work closely with IM hospitalist physicians. Students' schedules vary according to the needs of each site; some students may be on call during the rotation. Students provide longitudinal care for IM patients assigned to them at the time of consultation, from the emergency room to patient's discharge and/or transfer. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7204 Hospitalist Service Elective (1-12).** The Hospitalist rotation is designed to allow fourth year

students the opportunity to participate with increased responsibility in the care of patients admitted to the internal medicine/hospitalist service and work closely with the IM-Hospitalist physicians at the respective site. This rotation has a length of 4 weeks and there will be call every fourth night. Students will provide longitudinal care for IM patients assigned to them at the time of consultation from emergency room to patient's discharge and/or transfer. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7220 Cardiology Elective (1-12).** This hospital rotation is offered at MSMC, Baptist Health System, and Cleveland Clinic Florida. The objective is to improve the understanding of the pathophysiology of common cardiovascular diseases, the evaluation of acute and chronic cardiac disorders, appropriate history and physical exam, indications for invasive and non-invasive studies, EKG interpretation, differential diagnosis and first line treatment of prevalent cardiovascular disorders. Emphasis will be placed on prevention. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7245 Pulmonology Elective (1-12).** This rotation is intended to prepare students to obtain necessary patient care skills to effectively care for common cardiopulmonary disorders, in a consultation service with some office experience. Depending on the site, students will be part of a team with fellows and residents or will be under the direct supervision of a pulmonary specialist. Objectives include skills in radiological interpretation, and pulmonary function tests interpretation. Prerequisite: Enrolled in HWCOC.

**MDE 7250 Dermatology Elective (1-12).** This elective course is designed to give the student exposure to clinical dermatology including the diagnosis and management of common skin diseases seen in general practice. Most of the teaching and learning will be accomplished by daily patient care activities at the Greater Miami Skin and Laser Center (Mount Sinai Medical Center). To that end, the majority of the time the student will be shadowing faculty members at the clinic. Upon completion of this elective, the student will know the clinical features of the most commonly encountered skin diseases and will be familiar with the modalities available for their management. This elective will be useful to students planning a career in a primary care specialty or dermatology. Prerequisite: Enrolled in College of Medicine.

**MDE 7260 Endocrinology Elective (1-12).** Students will see patients in the adult out-patient setting as well as inpatient consultation service. Patient seen in consultation will be followed until the consultation is signed off. There will be topic presentations during the week and case discussions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7270 Gastroenterology/Hepatology Elective (1-12).** This course will consist of a four week rotation which will include inpatient and outpatient gastroenterology and hepatology. Throughout the rotation students will be assuming primary responsibility of patients under the supervision of gastroenterology attendings. The experience will also allow for participation in varied endoscopic procedures such as esophageal manometry, upper and lower endoscopy. During the each week students will participate in pathology and radiology

conferences geared to gastroenterology and hepatology cases. The course will concentrate in teaching students how to interpret clinical information and develop therapeutic decision making. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7280 Hematology-Oncology Elective (1-12).** This rotation is intended to prepare students to learn a basic approach to evaluation, diagnosis, staging and treatment of patients with blood diseases and cancer, students will improve physical diagnosis skills focused on recognition of disorders, recognition of complications of disease and therapeutic issues. Students will learn concepts of palliative care, end of life and hospice care. The rotation is mainly in patient-consult service with some outpatient exposure. Consults come from medical and surgical services. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7291 Multidisciplinary Oncology Clinical Elective (1-12).** The goal of this elective is to introduce the student to the multidisciplinary management of patients with cancer. The program includes the evaluation and management of patients with hematologic malignancies and the disciplines of medical oncology, surgical oncology, and gynecologic oncology. The full spectrum of care also includes programs in cancer survivorship and palliative care. The experience will include outpatient clinics, inpatient rounds/consults, surgery and exposure to clinical trials and clinical research. The students will attend and present at weekly multidisciplinary tumor conferences, attend monthly cancer committees, and participate in monthly journal clubs. The opportunity to participate in clinical research will be made available to interested students. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7301 Allergy and Clinical Immunology Elective (1-12).** Students actively participate in all outpatient clinics to ensure a broad and comprehensive experience. Where pertinent to our training goals, students will also have the opportunity to evaluate inpatients. There will be no night call or weekend call. Emphasis will be placed on history-taking and the physical examination. Students will develop basic skills in the evaluation of and interpretation of immunological studies performed on blood specimens, pertinent imaging studies, pulmonary function testing and allergy skin testing. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7310 Rheumatology Elective (1-12).** This rotation includes office and hospital consultation. The objective is to improve the understanding of the pathophysiology, clinical presentation, differential diagnosis, and treatment of common rheumatologic disorders, including the evaluation of soft tissue rheumatism, acute and chronic arthritis, autoimmune connective tissue disorders, and indications for technique of arthrocentesis and tendon injections. Students learn the interpretation of the most common laboratory tests used in rheumatic conditions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7320 Infectious Disease Elective (1-12).** This elective rotation is intended to prepare students to obtain, under direct supervision of an infectious disease faculty, the necessary diagnostic and therapeutic skills to effectively care for patients with infectious disorders from



the surgical, transplant, intensive care, OB/GYN, hematologic/oncologic, and general medicine services in a community hospital. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7328 Clinical Virology Elective (1-12).** This rotation is an in-patient and out-patient two week course at Jackson North Medical Center and a laboratory experience at the State of Florida Department of Health virology testing laboratory. The inpatient experience will focus on the opportunistic infections requiring hospitalization as a consequence of advanced HIV Disease. The out-patient experience will focus on the diagnosis and treatment of patients with common viral diseases, primarily Hepatitis B, Hepatitis C, Herpes simplex-type II and HIV. The State of Florida Department of Health Virology lab will allow students to see how virologic tests are performed for influenza using molecular techniques as well as other virologic serologic testing for viral and bacterial pathogens. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7340 Intensive Care Unit Elective (1-12).** This rotation is intended to prepare students to obtain necessary diagnostic and therapeutic skills to effectively care for patients diagnosed with critical medical disorders. Students work under direct the supervision of the ICU attending physician or as a member of a teaching team under the supervision of the attending physician, pulmonary/critical care fellow, and IM residents. Students assist in the admission, evaluation, and management of patients admitted to the Medical Intensive Care Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7350 Nephrology Elective (1-12).** This may be offered as a 2 week or 4 week elective. It offers students the opportunity to learn about the diseases of the kidney and become more skilled in their management. Students will participate in the care of patients with medical renal disease that are seen in the office and also on the renal consult service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7400 Pediatric Hospitalist Services Elective (1-12).** Medical students will examine patients admitted to the Inpatient Hospitalist Services, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients admitted to the hospitalist service. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Hospitalist Service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7401 Inpatient Pediatrics Elective (1-12).** Taking a history and performing the physical exam remain the basic tools of the physician. Developing a differential and working diagnosis are the next essential steps. Finally, the plan for further work-up and treatment culminate the skills which are necessary. The hospital has organized a program for medical students to expand their practical knowledge of pediatrics. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7404 Pediatric Ambulatory Services Elective (1-12).** The student, under direct physician supervision, will participate in the diagnosis and treatment plan for

emergency and outpatient cases. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7405 Advanced Pediatric Medicine (1-12).** Medical students will examine patients admitted to the Inpatient Hospitalist Services, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients admitted to the hospitalist service. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Hospitalist Service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7420 Pediatric Cardiology Elective (1-12).** Medical students will examine patients admitted to the hospital, make daily rounds on all patients on the cardiologist's service, assist and observe the management of cardiac patients in an outpatient setting. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7422 Pediatric Cardiovascular Surgery Elective (1-12).** Medical students will examine patients admitted to the Cardiovascular Surgery service, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients in an cardiac intensive care setting. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Cardiovascular Surgery. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7425 Pediatric Pulmonology Elective (1-12).** Medical students work closely with the Division of Pediatric Pulmonology and the Respiratory Therapy Department. Students are exposed to the importance and value of pulmonary function testing in the diagnosis and follow-up of acute and chronic pulmonary problems, interpretation of blood gases, and the assessment and management of patients seen in the division. Special emphasis is placed on the student's understanding of the interpretation of blood gases in the presence of different medical problems and the pathophysiology of pulmonary diseases. Emphasis is also given to clinical aspects of asthma, bronchopulmonary dysplasia (BPD), and cystic fibrosis. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7430 Pediatric Endocrinology Elective (1-12).** The student, under direct physician supervision, will participate in clinics, inpatient, and private patient care in the area of endocrinology. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7433 Pediatric Gastroenterology Elective (1-12).** Medical students and resident will perform routine histories and physical examinations on all gastroenterology patients with emphasis on clinical diagnosis and treatment. They will also participate in endoscopic procedures and will be expected to have an active role in the management of G.I. patients in both inpatient and outpatient settings. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7438 Pediatric Genetics Elective (1-12).** The student will participate in the evaluation and management of children with metabolic/genetic disorders of those

children suspected of having such disorders. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7440 Pediatric Hematology Elective (1-12).** The medical student will evaluate and follow hematology and oncology patients, including both clinic and hospitalized patients, and will attend educational conferences in-house. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7445 Pediatric Nephrology Elective (1-12).** Students will participate in the evaluation and management of children with renal diseases. They will do so by performing history and physical examination, evaluating the laboratory data obtained, and formulating a therapeutic plan once all the data is analyzed. A second portion of this elective will consist of the active participation at conferences in which the pathology of the patients will be discussed. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7450 Pediatric Allergy and Clinical Immunology Elective (1-12).** The student, under direct supervision, will participate in clinics and private patient care in the area of allergy and immunology. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7454 Pediatric Infectious Disease Elective (1-12).** Medical students examine patients admitted to the Pediatric Infectious Diseases Unit, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, and assist and observe the management of patients in an intensive care setting. Students participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Pediatric Infectious Diseases Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7456 Pediatric Rheumatology Elective (1-12).** Students, under direct supervision, will participate in the evaluation and management of patients with rheumatologic disorders. During this rotation, students will be exposed to the wide spectrum of rheumatologic disorders of infancy, childhood and adolescence, from Systemic Lupus Erythematosus and Juvenile Arthritis to the still ill-defined Vasculitis. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7460 Pediatric Neonatology Elective (1-12).** Medical students will examine patients admitted to the Pediatric Neonatology Unit, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients in an neonatal intensive care setting. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, and residents of the Neonatology Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7462 Pediatric Intensive Care Elective (1-12).** Medical students will examine patients admitted to the Pediatric Intensive Care Unit, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients in an intensive care setting. Students will participate in all academic activities, including simulation training and

didactic lectures, provided to the students, residents, and fellows of the Pediatric Intensive Care Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7470 Pediatric Neurology Elective (1-12).** The medical student will perform histories and physical examinations on patients with neurological problems, develop diagnostic and treatment plans, and discuss them in detail with a faculty member. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7490 Pediatric Surgery Elective (1-12).** The goals of this rotation include:

1. Understand the unique anatomic, physiologic, metabolic issues in infants, children, and adolescents with surgical problems.
2. Gain hands-on instruction in the in-patient management of surgical patients in the NICU, PICU, and general units.
3. Develop expertise in the use of the hospital information systems and libraries.
4. Gain hands-on instruction and experience in the conduct of a pre and postoperative surgical clinic. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7492 Advanced Pediatric Surgery (1-12).** The Advanced Clerkship in Pediatric Surgery combines in-patient, emergency, and out-patient experiences. The student will be exposed to all necessary competencies including interpersonal skills, professionalism, practice and systems based learning, patient care, and medical knowledge.

The goals of this rotation include:

1. Understand the unique anatomic, physiologic, metabolic issues in infants, children, and adolescents with surgical problems.
2. Gain hands-on instruction in the in-patient management of surgical patients in the NICU, PICU, and general units.
3. Develop expertise in the use of the hospital information systems and libraries.
4. Gain hands-on instruction and experience in the conduct of a pre and postoperative surgical clinic. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7494 Pediatric Orthopedic Surgery Elective (1-12).** The section of Orthopedics presents to the fourth-year student a comprehensive outline of the spectrum of orthopedic surgery as practiced in a pediatric setting. The student is involved in an intensive in-patient experience and has increased responsibility, involving primary workup of new patients and writing orders. The student also performs procedures such as evaluating patients, taking an orthopedic history, performing a physical examination of the musculoskeletal system, assisting in the operating room, and being involved in postoperative care. The student is involved in the management of orthopedic trauma and is expected to participate with the orthopedic surgery team in the diagnosis, surgical treatment, and postoperative management of orthopedic trauma patients. The student may participate directly with patients in the emergency department, operating room, intensive care unit, and the orthopedic unit. Prerequisite: Enrolled in College of Medicine.

**MDE 7497 Pediatric Urology Elective (1-12).** Medical students examine patients admitted to the urology unit, write daily entries into the medical record, develop plans

for care, enter orders into the medical record, make daily rounds on all patients, and assist and observe the management of patients in an intensive care setting. Students participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the urology unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7500 Pediatric Dermatology Elective (1-12).** Medical students will observe the diagnosis and treatment of dermatologic problems in the weekly Dermatology Clinic. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7505 Pediatric Emergency Medicine Elective (1-12).** Medical students will examine and evaluate patients presenting to the Pediatric Emergency Medicine. Students are expected to make entries into the electronic medical record, develop plans for care, and enter orders. Students will participate in all academic activities, including simulation training, provided to the Pediatric Emergency Medicine fellows. Students are required to attend the monthly Trauma Services lecture. Students are expected to expand their knowledge of Pediatric Emergency Medicine with a focus on acute airway management, acute evaluation of the pediatric trauma patient, evaluation of the pediatric acute abdomen, fever in children, and the management of minor soft tissue injuries. Skills and knowledge will be acquired through directed readings, patient care, and simulation scenarios. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7531 Anatomic and Clinical Pathology Elective (1-12).** This elective will provide an introduction and overview to the practice of pathology and is aimed at the student who may be considering pathology as a career but is as of yet undecided. The student will be exposed to anatomic pathology (surgical, autopsy and cytopathology) and clinical pathology, (clinical chemistry, hematology, microbiology and transfusion medicine). Molecular pathology will also be touched upon. The student will have access to the entire laboratory but will spend the most time in sign-out sessions and clinical conferences with the attending pathologists and residents. The student will learn pathology but will also experience what a career in pathology is like in a cordial setting surrounded by enthusiastic physicians. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7537 Pediatric Pathology Elective (1-12).** This elective will allow the student to become familiar with, observe, and participate in the daily activities in the pediatric pathology department of a large tertiary care Children's Hospital. Students will be exposed to both anatomic pathology and clinical laboratory medicine with emphasis on neonatal and pediatric disease processes. They will also gain an appreciation of performance of laboratory tests and their interpretation, quality control and cost-effectiveness. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7550 Ophthalmology Elective (1-12).** The fourth-year clinical rotation in ophthalmology provides students with a more focused and in-depth experience in the evaluation, diagnosis, and management of ophthalmic conditions. Students spend substantial time in the clinic and the operating room in general ophthalmology or their

ophthalmologic subspecialty of interest. They are able to do independent patient workup with the use of the slit lamp and other diagnostic tests, and then are expected to interpret and present their findings and suggested clinical management to the attending physician. Students have the opportunity to perform research in a preferred area of interest. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7570 Orthopedic Surgery Elective (1-12).** The section of Orthopedics presents to the student a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. The student is involved in an intensive in-patient experience and has significantly increased responsibility, involving primary workup of new patients and writing orders. The student performs procedures such as evaluating patients, taking an orthopedic history, and performing a physical examination of the musculoskeletal system. The student should improve his or her ability to manage complex patient presentations, including diagnosing and treating common adult orthopedic problems. The student should develop advanced skills in fracture treatment and cast application. He or she should be involved in joint replacement surgery and management of postoperative adult orthopedic patients. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7580 Physical Medicine and Rehabilitation Elective (1-12).** This elective offers students experience in the diagnosis and management of patients with a variety of neuro-muscular diagnoses such as stroke, spinal cord injury, traumatic brain injury, and neuro-degenerative disorders such as multiple sclerosis. Students may treat patients with musculo-skeletal disorders such as amputation, total hip arthroplasty, total knee arthroplasty, and multiple trauma victims. Students attend physical, occupational, and speech therapy sessions with their patients to learn the daily process of rehabilitation. They learn to perform. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7590 Oral and Maxillofacial Surgery Elective (1-12).** This elective is an opportunity for medical students to expand their knowledge in anatomy and physiology of the oral cavity, maxillofacial region, the neck, and their adnexal structures to the extent of being capable of recognizing abnormal findings. Students also learn about the surgical management of oral and head and neck pathology and the correction of congenital and traumatic deformities. Acute trauma care is a major component of this service. Students have the opportunity to perform minor procedures in the hospital clinic, as well as the emergency room. Students advance their skills in history taking as well as physical and regional examination. Furthermore, students observe and participate in surgical procedures involving oral and maxillofacial pathology, infections, major hard and soft tissue trauma, reconstruction, and dento-craniofacial deformities. Student are able to participate in on-call activities if they desire. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7592 Otolaryngology/ENT Elective (1-12).** This clinical elective exposes fourth year medical students to the surgical subspecialty of Otolaryngology-Head and Neck Surgery, also known as Ear, Nose and Throat (ENT). Medical students work directly with resident and

attending physicians in the operating room, inpatient setting, and outpatient clinic caring for patients with a variety of medical and surgical diseases affecting the head and neck region. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7600 General Surgery Elective (1-12).** The student works directly with general and vascular surgeons. During the rotation, the student is exposed to all phases of patient care, including outpatient clinic, operating room and hospital. Emphasis will be placed on initial assessment, physical examination and preoperative evaluation. When appropriate, the student follows individual patients whose cases are particularly instructive. Supplemental reading for such cases is encouraged. While no formal projects are required, ample opportunity exists for independent projects as dictated by the student's special interests. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7601 Advanced General Surgery (1-12).** In this Advanced Clerkship, the student works directly with general and other subspecialty surgeons. During the rotation, the student is exposed to all phases of patient care, including outpatient clinic, operating room and hospital. Emphasis will be placed on initial assessment, physical examination and preoperative evaluation. When appropriate, the student follows individual patients whose cases are particularly instructive. Supplemental reading for such cases is encouraged. While no formal projects are required, ample opportunity exists for independent projects as dictated by the student's special interests. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7604 Global/International Rural Surgery Elective (1-12).** This four week rotation in Trujillo, Peru (northwest of Lima on Pacific Coast), will provide the student who is already committed to a surgical career, an intense experience functioning at an advanced level under direct supervision of Dr. Richard A. Lynn, Associate Professor of Surgery, and the attending General, Vascular, Thoracic, and Trauma surgeons at Hospital Regional Docente de Trujillo, with whom excellent collegial relationships have already been established with Dr. Lynn, after his last mission trip there. There will be enormous opportunities to experience surgical pathologies not usually seen in Miami, as well as procedures typically not performed regularly (open surgery-without the luxuries of staplers, disposables, etc.). The student will function at the level of an intern (under supervision). For the student electing to participate, it is assumed to be a given as to the dedication, interest, motivation, and desire to acquire as much surgical patient care exposure as possible. This includes preoperative, intra-operative (1st and 2nd assisting in the operating theatre) and postoperative care with graded responsibility leading to virtual initial independent decision-making (with formal, structured supervision). Prerequisite: Enrolled in the College of Medicine.

**MDE 7605 Vascular Surgery Elective (1-12).** The goal of the rotation is to provide students with a thorough understanding of the diseases of the peripheral vascular systems - arterial, venous, and lymphatic. Those considering a career in vascular surgery can gauge if the specialty meets their interests and skills while those planning to choose other fields can learn more than

enough to know when referral to a vascular surgeon is appropriate. Students will work with our vascular surgeons in the office, hospital wards, operating room, interventional suite, and wound center to learn about the diagnosis and management of the full spectrum of vascular diseases. They will be exposed to patients with carotid artery disease, aortic and peripheral artery aneurysms, peripheral artery occlusive disease, dialysis access needs, venous thrombosis, varicose veins, and chronic wounds. They will be able to assist in open surgeries and in balloon angioplasty/stent procedures. There will also be opportunities for clinical research if desired. There will be no night or weekend call. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7632 Cardiothoracic Surgery Elective (1-12).** The goal is to allow fourth year medical students with a special interest in Cardiothoracic Surgery, the opportunity to become more familiar with the pathophysiology and clinical presentation of the most common cardiothoracic diseases. It is expected that the Medical Student will be part of the Cardiothoracic Surgical team involved in the daily routine including the operating room, the cardiothoracic intensive care unit and floor. Some exposure to catheter based therapy in the hemodynamics room (cath lab) will also be included. The current trend is to have two separate pathways, one for cardiac and one for thoracic. However, because of the short duration on the service both pathways will be integrated. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7640 Bariatric and Minimally Invasive Surgery Elective (1-12).** This 4-week rotation will give the student exposure to surgical treatments for morbid obesity and the use of minimally invasive surgery in a number of conditions affecting the GI tract, abdominal wall, endocrine glands and spine. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7645 Surgical Oncology Elective (1-12).** The goal of this elective is to introduce the student to the surgeon's role in the multidisciplinary management of patients with cancer. The program includes the evaluation and management of patients with malignant and benign solid tumors and their surgical management. The full spectrum of care includes medical oncology, radiation oncology and nuclear oncology. The experience will include outpatient clinics, in-patient rounds/consults, surgery and exposure to clinical trials and clinical research. The students will attend and present at weekly multidisciplinary tumor conferences, attend cancer committees, and participate in monthly journal clubs. The opportunity to participate in clinical research will be made available to interested students. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7650 Neurosurgery/Neuroscience Elective (1-12).** This one month elective neurosurgical clerkship will assign interested students to faculty neurosurgeons at one of our affiliated facilities. This rotation presents the student the broad-spectrum of neurosurgical conditions and procedures encountered in a tertiary hospital setting. Each student will receive a syllabus at the beginning of the rotation that covers the fundamentals of neurosurgery for undergraduate medical education. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7660 Plastic and Reconstructive Surgery Elective (1-12).** The elective rotation in plastic surgery is a four (4) week clerkship designed to expose the student to a wide variety of clinical problems and techniques commonly encountered in the field of plastic surgery. The student will be exposed to all subspecialties in plastic surgery, including general reconstructive surgery, pediatric/craniofacial surgery, hand surgery, and aesthetic surgery. Students will rotate through several offices/hospitals during the rotation and will be expected to participate in pre-and post-operative office visits, hospital visits, and surgeries. The student will gain exposure to both in-patient and out-patient plastic surgery practices. In addition, the student will be expected to master wound closure techniques and other basic plastic surgery technical skills. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7661 Breast Surgery Elective (1-12).** This fourth year medical student clinical rotation focuses exclusively on the clinical management of benign and malignant breast diseases. The student will become proficient in taking a history, performing a breast examination, and differential diagnosis in breast patients. There will be direct one-on-one supervision by attending surgeon. The student will learn about the surgical management of breast cancer and the integration of other modalities in its overall management. The student will have some responsibility for inpatient care and will have the opportunity to be first assistant in the operating room. There will be weekly didactic sessions with the attending physician. We will discuss the most important aspects of breast cancer including biology, diagnostics, prevention, and treatment. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7675 Urology Elective (1-12).** Students acquire knowledge of urology and urologic anatomy. They develop an understanding of and the ability to perform a urologic history and physical exam, interview and present patients, and proper technique for Foley Catheterization. Students develop an understanding of most urologic issues with an emphasis on the acute scrotum, urinary tract infections, urinary stones, incontinence, benign prostatic hyperplasia, erectile dysfunction, hematuria, and prostate cancer. Students develop an understanding of common urologic malignancies, kidney stones, and possible treatments. Students develop an understanding of a spectrum of urologic procedures/surgeries by observation and participation. Students will understand the perioperative urologic issues of both urologic and nonurologic patients via inpatient encounters and/or management and participate in their care. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7676 Colorectal Surgery Elective (1-12).** This 4-week rotation will introduce the patient to the diagnosis and management of disorders affecting the colon and rectum including conditions such as Crohn's disease, Ulcerative colitis, familial polyposis, colorectal cancer and disorders of evacuation. Students will work with a team of five staff surgeons and five clinical residents. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7682 Trauma Surgery Elective (1-12).** This elective provides the 4th year medical student experience in the evaluation and treatment of the patient with severe trauma from admission in the ER through the postoperative and

postoperative periods. The student will be initially involved in the assessment and stabilization of the patient in the Trauma Room in the ER and will then be involved in the preoperative management, intraoperative treatment and postoperative recovery of the patient. Students will be exposed to emergency interpretation of imaging and diagnostic studies, ventilatory management, invasive monitoring procedures and interventional procedures such as chest tube insertion, thoracentesis and paracentesis. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7700 Anesthesiology Elective (1-12).** This rotation will allow the student supervised hands-on participation of patients in the preoperative evaluation, creation of anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care. The student will also be involved in the placement of regional blocks. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7701 Pediatric Anesthesiology Elective (1-12).** This rotation will allow the student supervised hands-on participation in the preoperative evaluation, creation of anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care in pediatric patients. The student may also be involved in the placement of regional blocks. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7710 Emergency Medicine Elective (1-12).** This rotation is intended to make the student familiar with the wide range of clinical conditions, minor to major which are responsible for the patient seeking care at an Emergency Room. The student will practice skills in the recognition and management of acute life-threatening conditions and exacerbation of serious disease in a strictly supervised setting. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7763 Diagnostic Radiology Elective (1-12).** This rotation is intended to give students an introduction to the basics of diagnostic imaging, the appropriate choice of imaging method for given clinical problems and the side-effects and risks associated with each. Students will become familiar with imaging findings in common clinical condition. The rotation will involve online modules, small group sessions and 'virtual' and real reading room sessions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7765 Interventional Radiology Elective (1-12).** This rotation is intended to give students an introduction to the basics of Interventional Radiology and see the role of the modality in the management of medical and surgical problems. Students will participate in the workup, treatment and follow-up of patients undergoing interventional radiology procedures. Students will also gain experience in the interpretation of radiologic imaging such as Ultrasound, CT and MRI. Prerequisite: Enrolled in College of Medicine.

**MDE 7769 Pediatric Radiology Elective (1-12).** Students participate fully in the educational experiences of the department, including participation in all scheduled teaching rounds and conferences, the interpretation of films in the reading rooms, and the observation of the

performance of diagnostic tests and procedures within the department. Senior attending staff review current cases on a daily basis with the student based on inpatient and outpatient flow. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7780 Radiation Oncology Elective (1-12).** This rotation provides students with supervised participation in the care of radiation oncology patients. This includes the diagnostic/clinical evaluation of the patient's disease and the development of treatment plans involving radiation therapy. Students are exposed to state-of-the-art radiation oncology equipment and, during the planning phase, are shown the use of CT imaging with plain and contrast-enhanced techniques for therapy planning and positioning of the patient for radiation treatment. They are exposed to the management of the most common tumors seen in our community, including breast, prostate, lung, GI, skin, and head and neck cancer. Students are introduced to palliative care and the incorporation of integrative medicine in the overall care of the patient. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7800 Neurology Elective (1-12).** A one month elective neurology clerkship that can be tailored to the student's needs. In-patient and out-patient experiences will be available in addition to simulations and neuro-anatomy lab. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7807 Neuro-Oncology Elective (4).** The management of patients with primary and metastatic brain malignancies is a complex endeavor. Treatment strategies for these patients often involve a multi-disciplinary approach. This rotation will provide exposure to all of the main modalities who care for patients with neurologic malignancies including radiation oncology, neurosurgical oncology, and medical neuro-oncology, with a focus on medical neuro-oncology. Outside of the core subspecialties, there are opportunities for time in neuro-radiology, review of current surgical cases with the pathology department, and exposure to rehab and palliative medicine through subspecialty

**MDE 7820 Pain Management Elective (1-12).** Students will rotate in an ambulatory setting at a pain management practice under the direct supervision of the attending. This rotation will provide them with exposure to the evaluation and management of acute and chronic pain including: Upper and lower back pain; Chronic arthritis; Disk disease; Radicular and; neuropathic pain syndromes; Pain associated with malignancy. Students will get an understanding of common procedures used in pain management: Local anesthesia; Joint injections; Epidural injections; Peripheral nerve block; Trigger point injections. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7843 Community Psychiatry Elective (1-12).** The course allows Period 4 medical students to refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient, outpatient and emergency psychiatry experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting for admission and will follow inpatients throughout their hospital stay. The Elective is 2 weeks or 4

weeks long. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7845 Advanced Psychiatry Elective (1-12).** The course allows period 4 medical students to become familiar with special patient populations (people with neurodevelopmental disorders and people with mental illness who are homeless) and to be exposed to the clubhouse international model of psychosocial rehabilitation for people with mental illness. The student will interview and contribute in diagnosing and creating treatment plans for people with mental illness who are homeless, victims of human trafficking, involved in jail diversion programs and people with neurodevelopmental disorders. The students will also immerse themselves in the work-unit day in the clubhouse environment of psychiatric rehabilitation. To accomplish these tasks, during this elective, the student will spend time in three different settings. Prerequisite: Enrolled in HWCOM.

**MDE 7862 Adult Inpatient Psychiatry Elective (1-12).** The course allows Period 4 medical students to refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient and emergency psychiatry experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting for admission and will follow inpatients throughout their hospital stay. The Elective is 2 weeks or 4 weeks long. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7871 Child Inpatient Psychiatry Elective (1-12).** The course exposes Period 4 medical students to child and adolescent psychiatry in a hospital setting and allows them to refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient and emergency psychiatry experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting for admission and will follow inpatients throughout their hospital stay. The Elective is 2 weeks or 4 weeks long. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7880 Forensic Psychiatry Elective (1-12).** The course exposes interested Period 4 medical students to the interactions between the psychiatric and legal systems by providing the opportunity to rotate in a forensic psychiatric hospital. Students will learn the clinical, legal and ethical issues at the interface between psychiatry and the law and will refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient and assessment experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting for admission and will follow inpatients throughout their hospital stay. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7883 Geriatric Psychiatry Elective (1-12).** The course exposes interested Period 4 medical students to the practice of geriatric psychiatry. Students will refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient and assessment experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting

for admission and will follow inpatients throughout their hospital stay. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDE 7930 Anatomy Elective (1-12).** This four week anatomy elective clerkship will allow students the opportunity to gain a deeper insight into human anatomy and develop the skills and knowledge required for surgical internships and subspecialties. This will allow the students to develop an understanding of the anatomical basis of successful surgical interventions and the risks involved. The student will be under the direct supervision of faculty anatomists and clinicians. They will perform dissections of all relevant body regions in groups of 4-6 students. The students will make sure that the Anatomical structures listed in dissection protocol objectives (SLO) are preserved. Moreover, they will assist in the laboratory teaching sessions of the courses "Structure of the Human Body" and "Musculoskeletal Anatomy for Physiotherapy Students". Prerequisite: Enrolled in HWCOM.

**MDI 7122 Family Medicine Subinternship (1-12).** The rotation is intended to prepare students to provide care for a variety of common presenting problems at the intern level in both the inpatient and outpatient setting. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDI 7160 Obstetrics and Gynecology Sub-Internship (4).** During the obstetrics and gynecology (ob/gyn) sub-internship, the student is responsible for performing all intern level activities under supervision including, but not limited to: evaluating patients' presenting issues and all medical concerns, admitting patients, managing labor and delivery, and formulating a management plan. The sub-intern will demonstrate the ability to counsel and obtain informed consent for vaginal and cesarean deliveries and postpartum tubal ligations. S/he will interpret fetal heart rate tracings and formulate a plan of care for an abnormal tracing. S/he will be responsible for crosscoverage of postpartum patients during labor and delivery shifts. S/he may also be involved in the gynecologic care of patients, including pre-, intra- and post-operative management. The student is expected to participate in all of the educational activities of the Department of Obstetrics and Gynecology during the sub-internship. Prerequisite: Student must be in his/her fourth year and have successfully completed all core third year clerkships.

**MDI 7200 Internal Medicine Subinternship (1-12).** This rotation is intended to prepare students to effectively care for medical conditions commonly encountered during inpatient rotations including ward emergency scenarios. This rotation will provide necessary skills to be successful during their first year of post-graduate education. The sub-intern will fulfill clinical and academic responsibilities as an integral team member of an inpatient medical service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7340 ICU Subinternship (1-12).** This rotation is intended to prepare students to obtain necessary diagnostic and therapeutic skills to effectively care for patients diagnosed with critical medical disorders. The subintern student will work in a team under the direct supervision of a pulmonary/critical care fellow and a senior resident in the role of an intern. Students will assist in the

admission, evaluation, and management of patients admitted to the Medical Intensive Care Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7341 Acute Coronary Care (CCU/CICU) Subinternship (1-12).** This rotation is intended to prepare students to obtain necessary diagnostic and therapeutic skills to effectively care for patients diagnosed with critical cardiac disorders. Students will become an integral part of the CICU team consisting of cardiology attending, fellows, internal medicine residents and interns. Students will assist in the admission, evaluation, and management of patients admitted to the CICU. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7400 Pediatric Medicine Subinternship (1-12).** Medical students rotating in the Pediatric Medicine Subinternship will examine patients admitted to the Inpatient Hospitalist Services, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients admitted to the hospitalist service. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Hospitalist Service. The subinternship gives the student increased responsibility for decisions made for the total care of the patient. In general, the student would be expected to function more nearly as an intern than as a third year student. During the subinternship, the student will be exposed to all necessary competencies including interpersonal skills, professionalism, practice and systems based learning, patient care, and medical knowledge. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7463 Pediatric Intensive Care Subinternship (1-12).** The Pediatric Intensive Care Subinternship is a unique opportunity for students to learn about the pathophysiology, pharmacology, social aspects, and clinical skills found in a world-class pediatric intensive care unit. The faculty, fellows, residents, and staff hope that students utilize this experience to further their knowledge of the critical care of children and to see how family centered care in all fields of medicine contributes to an improved overall medical environment. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7480 Pediatric Orthopedic Surgery Subinternship (1-12).** The section of Orthopedics will present to the subintern a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. The subintern will be involved in an intensive in-patient experience and will have significantly increased responsibility, involving primary workup of new patients and writing orders. The subintern will also perform procedures such as evaluating patients, taking an orthopedic history, and performing a physical examination of the musculoskeletal system. The subintern should improve his or her ability to manage complex patient presentations, including diagnosing and treating common adult orthopedic problems. The subintern should develop advanced skills in fracture treatment and cast application. He or she should be involved in joint replacement surgery and management of postoperative adult orthopedic patients. The subintern will participate in daily care, take night call, write notes, and dictate discharge summaries. The subintern may be involved in the management of

orthopedic trauma and is expected to participate with the orthopedic surgery team in the diagnosis, surgical treatment, and postoperative management of orthopedic trauma patients. The subintern will participate directly with patients in the emergency department, operating room intensive care unit, and the orthopedic unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7490 Pediatric Surgery Subinternship (1-12).** The subinternship, combining in-patient, emergency, and out-patient experiences, gives the student increased responsibility for decisions made for the total care of the patient. In general, the student would be expected to function more nearly as an intern than as a third year student. During the subinternship, the student will be exposed to all necessary competencies including interpersonal skills, professionalism, practice and systems based learning, patient care, and medical knowledge. The goals of this rotation include:

1. Understand the unique anatomic, physiologic, metabolic issues in infants, children, and adolescents with surgical problems.
2. Gain hands-on instruction in the in-patient management of surgical patients in the NICU, PICU, and general units.
3. Develop expertise in the use of the hospital information systems and libraries.
4. Gain hands-on instruction and experience in the conduct of a pre and postoperative surgical clinic. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7570 Orthopedic Surgery Subinternship (1-12).** The section of Orthopedics will present to the student a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. The student will be involved in an intensive inpatient experience and will have significantly increased responsibility, involving primary workup of new patients and writing orders. The student will also perform procedures such as evaluating patients, taking an orthopedic history, and performing a physical examination of the musculoskeletal system. The student should improve his or her ability to manage complex patient presentations, including diagnosing and treating common adult orthopedic problems. The student should develop advanced skills in fracture treatment and cast application. He or she should be involved in joint replacement surgery and management of postoperative adult orthopedic patients. The student will participate in daily care, take night call, write notes, and dictate discharge summaries. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDI 7600 General Surgery Subinternship (1-12).** This course is designed for students who desire to obtain a greater in-depth experience in general surgery or who are seriously considering surgery as a possible career choice. It serves as exploratory path for a planned career in general surgery or other surgical sub-specialties. In this role, the subintern will have more responsibilities than of a clerkship student. The student will, in general, function as a junior intern and will be given responsibility commensurate with his/her background and ability. The students will examine patients, assist in surgery, participate in post-operative care and will also be encouraged to develop their clinical and technical skills. The student will be expected to participate in all of the educational activities of the Department of Surgery during

the course of his/her clerkship. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7620 Cardiothoracic Surgery Subinternship (1-12).** The goal is to allow fourth year medical students with a special interest in Cardiothoracic Surgery, the opportunity to become more familiar with the pathophysiology and clinical presentation of the most common cardiothoracic diseases. It is expected that the Medical Student will be part of the Cardiothoracic Surgical team and assume the role of a subintern involved in the daily routine including the operating room, the cardiothoracic intensive care unit and floor. Some exposure to catheter based therapy in the hemodynamics room (cath lab) will also be included. The current trend is to have two separate pathways, one for cardiac and one for thoracic. However, because of the short duration on the service both pathways will be integrated. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7660 Plastic and Reconstructive Surgery Subinternship (1-12).** The subinternship rotation in plastic surgery is a four (4) week clerkship designed to provide the student to with advanced exposure to the clinical problems and techniques commonly encountered in the field of plastic surgery. The student will be exposed to a specific area of interest within the field of plastic surgery. The goal is to prepare the student for an internship/residency in the field of plastic surgery. A student may choose to focus on pediatric plastic surgery, hand surgery, general reconstructive surgery, or aesthetic surgery. Students will rotate through a single setting during the rotation and will develop working relationships with the surgical preceptor. The student is expected to participate in pre-and post-operative office visits, hospital visits, and surgeries. In addition, the student will be expected to master further advance their basic plastic surgery technical skills. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7674 Urology Subinternship (1-12).** In this rotation, the student will acquire knowledge of Urology and Urologic Anatomy; develop an understanding and ability of how to perform a urologic history and physical exam; interview and present patients; learn proper technique for Foley Catheterization, observe the use of a flexible cystoscope, observe transrectal ultrasound and prostate biopsy; develop an understanding of emergent urologic issues as well as common urologic issues with an emphasis on the acute scrotum, urinary tract infections, urinary stones, incontinence, benign prostatic hyperplasia, erectile dysfunction, hematuria and prostate cancer/PSA testing by both didactic and practice based learning; develop an understanding of common Urologic malignancies and treatments possible; develop an understanding of kidney stones and the treatments possible; develop an understanding of a spectrum of urologic procedures/surgeries by observation and participation; develop an understanding of peri-operative urologic issues of both urologic and non-urologic patients via inpatient encounters and/or management and participate in their care; and develop an understanding of the role of a Urologist in the care of both male and female patients and when an appropriate referral should be made (emergent or routine). The student will also learn to function as a supervised member of the urologic team, interacting with faculty and resident staff and participating in urologic



clinics and in the operating room. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7680 Trauma/Acute Care Surgery Subinternship (1-12).** The Trauma/Acute Care Surgery subinternship is intended to provide the student with in-depth knowledge of patient care as it relates to trauma and non-trauma emergency surgical diseases. The student is expected to function at the level of a junior resident and be on the scene for first-line evaluation and management of patients in the emergency room. In addition, it is expected that the student maintains close follow-up of the patient's progress on a daily basis. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDR 7060 Medical Ethics and Humanism Elective (1-12).** Offered as a two-week rotation, with the option for an additional two-credit longitudinal component; this elective is designed for the individualized study of topics in clinical, research, and service-learning ethics and humanism in medicine. Students will examine ethical and humanistic issues in medicine that emerge in the clinical setting, lab, or community. Students will read, write and analyze case vignettes, attend community ethics activities (e.g. Hospital ethics committee meetings), develop a scholarly project, and contribute to an ethics research project. Humanism in medicine is the recognition that both practitioner and patient are human beings, with the shared values and experiences of humanity. This provides a framework for improved clinical interactions and addresses phenomena such as ethical leadership, inclusive communication, and burnout. The course director will create learning contracts tailored to students' individual interests, objectives, and clinical schedules. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDR 7910 Research Scholarship (1-12).** The Research Scholarship Course aims to develop competencies required to do research as a lead investigator or colead investigator. This course provides students the opportunity to be exposed to and supported through the completion of a research project in a role that very closely resembles the role of a primary investigator or first author researcher. The student should be a full participant and a crucial element in the generation of (or fully understand, if assigned to an ongoing project) the research idea (research question or hypothesis), the development of the project proposal, data collection tools, data collection activities, analysis, interpretation, and the writing of a short document summarizing the experience. Potential research projects could encompass, but are not to be limited to the areas of basic sciences and community-based clinical and epidemiological research. Prerequisite: Enrolled in the Herbert College of Medicine.

**MDS 7140 Geriatric Medicine Selective (1-12).** The Geriatric Medicine Elective is designed to allow fourth-year medical students the opportunity to participate with increased responsibility in the care of geriatric patients. Students learn the various components of a comprehensive work-up (e.g., functional scales, minimal mental exam). Students participate with the geriatric team in hospital consultations and follow-ups. This rotation is designed to supplement and introduce students to aspects of geriatrics not fully covered on a busy internal medicine inpatient and outpatient service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7160 Obstetrics/Gynecology Selective (1-12).** The fourth year clinical electives in the Department of Obstetrics and Gynecology offer the student the opportunity to enhance his/her skills in out-patient diagnosis and management. The student is expected to attend according to the schedule agreed upon with the supervisor, including call duty, rounds, etc. Students with specific learning objectives for their experience should arrange a time to meet with the supervisor to discuss them. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7161 Gynecology Oncology Selective (1-12).** This four week selective is intended for students who have already completed the basic core clerkship in OB/GYN and are interested in enhancing their exposure to the subspecialty of Gynecologic Oncology. The student will be provided experience in the inpatient and outpatient management of patients with pre-malignant and malignant conditions of the genital tract. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7163 Gynecology Surgery Selective (1-12).** This four week course will introduce the student to gynecologic care in the adult female, ranging from routine care to the evaluation and surgical treatment of complex gynecologic conditions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7180 Perinatology/Maternal Fetal Medicine Selective (1-12).** This Period 4 clerkship allows students to experience the full range of maternal-fetal medicine and familiarizes students with the diagnosis and management of pregnant patients who have obstetrical, medical, or surgical complications. Students receive experience in ultrasound, genetics, genetic counseling, and the management of high-risk obstetrical patients. Students follow patients through the inpatient antepartum service and participate in the care of high-risk obstetrical patients admitted to the hospital. Attendance at the following conferences is required: FHR tracing and labor management review, high risk obstetrics conference, grand rounds, prenatal - neonatology conference, and journal club. Students are required to take call on the Labor and Delivery Unit one night per week. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7204 Hospitalist Service Selective (1-12).** The Hospitalist rotation is designed to allow fourth year students the opportunity to participate with increased responsibility in the care of patients admitted to the internal medicine/hospitalist service and work closely with the IM-Hospitalist physicians at the respective site. This rotation has a length of 4 weeks and there will be call every fourth night. Students will provide longitudinal care for IM patients assigned to them at the time of consultation from emergency room to patient's discharge and/or transfer. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7220 Cardiology Selective (1-12).** This hospital rotation aims to improve the student's understanding of the pathophysiology of common cardiovascular diseases, indications for invasive and noninvasive studies, and first-line treatment of prevalent cardiovascular disorders. This rotation should improve the student's ability to evaluate acute and chronic cardiac disorders, appropriately take a patient history and conduct a physical exam, interpret an

EKG, and conduct a differential diagnosis. Emphasis is placed on prevention. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7245 Pulmonology Selective (1-12).** This rotation is intended to prepare students to obtain necessary patient care skills to effectively care for common cardiopulmonary disorders in a consultation service through office experience. Depending on the site, students are part of a team of fellows and residents or are under the direct supervision of a pulmonary specialist. Objectives include skills in radiological interpretation and pulmonary function test interpretation. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7270 Gastroenterology/Hepatology Selective (1-12).** This course will consist of a four week rotation which will include inpatient and outpatient gastroenterology and hepatology. Throughout the rotation students will be assuming primary responsibility of patients under the supervision of gastroenterology attendings. The experience will also allow for participation in varied endoscopic procedures such as esophageal manometry, upper and lower endoscopy. During the each week students will participate in pathology and radiology conferences geared to gastroenterology and hepatology cases. The course will concentrate in teaching students how to interpret clinical information and develop therapeutic decision making. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7280 Hematology Oncology Selective (1-12).** This rotation is intended to prepare students to learn a basic approach to evaluation, diagnosis, staging and treatment of patients with blood diseases and cancer, students will improve physical diagnosis skills focused on recognition of disorders, recognition of complications of disease and therapeutic issues. Students will learn concepts of palliative care, end of life and hospice care. The rotation is mainly in patient-consult service with some outpatient exposure. Consults come from medical and surgical services. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7320 Infectious Disease Selective (1-12).** This elective rotation is intended to prepare students to obtain, under direct supervision of an infectious disease faculty, the necessary diagnostic and therapeutic skills to effectively care for patients with infectious disorders from the surgical, transplant, intensive care, OB/GYN, hematologic/oncologic, and general medicine services in a community hospital. Prerequisite Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7340 Intensive Care Unit Selective (1-12).** This rotation is intended to prepare students to obtain necessary diagnostic and therapeutic skills to effectively care for patients diagnosed with critical medical disorders. The student will work under direct the supervision of the ICU attending in the case of the Baptist Health System or as a member of a teaching team under the supervision of the attending, pulmonary/critical care fellow and IM residents. Students will assist in the admission, evaluation, and management of patients admitted to the Medical Intensive Care Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7341 CCU/CICU Selective (1-12).** This rotation is intended to prepare students to obtain necessary

diagnostic and therapeutic skills to effectively care for patients diagnosed with critical cardiac disorders. Students will become an integral part of the CICU team consisting of cardiology attending, fellows, internal medicine residents and interns. Students will assist in the admission, evaluation, and management of patients admitted to the CICU. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7342 Cardiothoracic ICU Selective (1-12).** This course provides the 4th year medical student with exposure to the multidisciplinary team approach to both the medical and surgical care of the patients needing surgery for Cardiac problems. The student will have experience of patient management from pre-operative through operative to post-operative management. In addition to experience with cardiothoracic surgery the student will be involved in the care of critically ill patients with cardiothoracic problems. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7350 Nephrology Selective (1-12).** This may be offered as a four week selective. It offers students the opportunity to learn about the diseases of the kidney and become more skilled in their management. Students will participate in the care of patients with medical renal disease that are seen in the office and also on the renal consult service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7400 Pediatric Medicine Selective (1-12).** Medical students will examine patients admitted to the Inpatient Hospitalist Services, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients admitted to the hospitalist service. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, residents, and fellows of the Hospitalist Service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7420 Pediatric Cardiology Selective (4).** Medical students will examine pediatric patients admitted to the hospital, make daily rounds on all patients on the cardiologist's service, assist and observe the management of cardiac patients in an outpatient setting. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7460 Pediatric Neonatology Selective (1-12).** Medical students will examine patients admitted to the Pediatric Neonatology Unit, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients in a neonatal intensive care setting. Students will participate in all academic activities, including simulation training and didactic lectures, provided to the students, and residents of the Neonatology Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7462 Pediatric Intensive Care Selective (1-12).** Medical students will examine patients admitted to the Pediatric Intensive Care Unit, write daily entries into the medical record, develop plans for care, enter orders into the medical record, make daily rounds on all patients, assist and observe the management of patients in an intensive care setting. Students will participate in all academic activities, including simulation training and

didactic lectures, provided to the students, residents, and fellows of the Pediatric Intensive Care Unit. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7490 Pediatric Surgery Selective (1-12).** The goals of this rotation include:

1. Understand the unique anatomic, physiologic, metabolic issues in infants, children, and adolescents with surgical problems.
2. Gain hands-on instruction in the inpatient management of surgical patients in the NICU, PICU, and general units.
3. Develop expertise in the use of the hospital information systems and libraries.
4. Gain hands-on instruction and experience in the conduct of a pre and postoperative surgical clinic.

Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7494 Pediatric Orthopedic Surgery Selective (1-12).** The section of Orthopedics presents to the fourth-year student a comprehensive outline of the spectrum of orthopedic surgery as practiced in a pediatric setting. The student is involved in an intensive in-patient experience and has increased responsibility, involving primary workup of new patients and writing orders. The student also performs procedures such as evaluating patients, taking an orthopedic history, performing a physical examination of the musculoskeletal system, assisting in the operating room, and being involved in postoperative care. The student is involved in the management of orthopedic trauma and is expected to participate with the orthopedic surgery team in the diagnosis, surgical treatment, and postoperative management of orthopedic trauma patients. The student may participate directly with patients in the emergency department, operating room, intensive care unit, and the orthopedic unit. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7500 Pediatric Emergency Medicine Selective (4).** Medical students will examine and evaluate patients presenting to the Pediatric Emergency Medicine. Students are expected to make entries into the electronic medical record, develop plans for care, and enter orders. Students will participate in all academic activities, including simulation training, provided to the Pediatric Emergency Medicine fellows. Students are required to attend the monthly Trauma Services lecture. Students are expected to expand their knowledge of Pediatric Emergency Medicine with a focus on acute airway management, acute evaluation of the pediatric trauma patient, evaluation of the pediatric acute abdomen, fever in children, and the management of minor soft tissue injuries. Skills and knowledge will be acquired through directed readings, patient care, and simulation scenarios. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7530 Pathology Selective (1-12).** The primary goal of the pathology rotation is to become familiar with the role of the department of pathology and laboratory medicine within the hospital and to learn to interact with the pathologists, pathology house staff (residents), and laboratory personnel. In addition, students should learn some basic concepts in pathology. The pathology department provides and oversees all aspects of laboratory testing (clinical pathology) and provides diagnostic information on tissue specimens (anatomic pathology). The primary activities in which students

participate include the daily sign-out of biopsies/surgical specimens, review of autopsies, and various intra and interdepartmental conferences. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7570 Orthopedic Surgery Selective (1-12).** The section of Orthopedics presents to the student a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. The student is involved in an intensive in-patient experience and has significantly increased responsibility, involving primary workup of new patients and writing orders. The student performs procedures such as evaluating patients, taking an orthopedic history, and performing a physical examination of the musculoskeletal system. The student should improve his or her ability to manage complex patient presentations, including diagnosing and treating common adult orthopedic problems. The student should develop advanced skills in fracture treatment and cast application. He or she should be involved in joint replacement surgery and management of postoperative adult orthopedic patients. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7580 Physical Medicine and Rehabilitation Selective (1-12).** This elective offers students experience in the diagnosis and management of patients with a variety of neuro-muscular diagnoses such as stroke, spinal cord injury, traumatic brain injury, and neuro-degenerative disorders such as multiple sclerosis. Students may treat patients with musculo-skeletal disorders such as amputation, total hip arthroplasty, total knee arthroplasty, and multiple trauma victims. Students attend physical, occupational, and speech therapy sessions with their patients to learn the daily process of rehabilitation. They learn to perform accurate functional assessments of patients, establish a plan of care for those patients, and provide accurate estimates of goals of the admission, including length of stay. Students learn comprehensive discharge planning for a newly disabled individual. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7600 General Surgery Selective (1-12).** The student works directly with general and vascular surgeons. During the rotation, the student is exposed to all phases of patient care, including outpatient clinic, operating room and hospital. Emphasis will be placed on initial assessment, physical examination and preoperative evaluation. When appropriate, the student follows individual patients whose cases are particularly instructive. Supplemental reading for such cases is encouraged. While no formal projects are required, ample opportunity exists for independent projects as dictated by the student's special interests. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7604 Global/International Rural Surgery Selective (1-12).** This four week rotation in Trujillo, Peru (northwest of Lima on Pacific Coast), will provide the student who is already committed to a surgical career, an intense experience functioning at an advanced level under direct supervision of Dr. Richard A. Lynn, Associate Professor of Surgery, and the attending General, Vascular, Thoracic, and Trauma surgeons at Hospital Regional Docente de Trujillo, with whom excellent collegial relationships have already been established with Dr. Lynn, after his last mission trip there. There will be enormous opportunities to

experience surgical pathologies not usually seen in Miami, as well as procedures typically not performed regularly (open surgery-without the luxuries of staplers, disposables, etc.). The student will function at the level of an intern (under supervision). For the student electing to participate, it is assumed to be a given as to the dedication, interest, motivation, and desire to acquire as much surgical patient care exposure as possible. This includes preoperative, intra-operative (1st and 2nd assisting in the operating theatre) and postoperative care with graded responsibility leading to virtual initial independent decision-making (with formal, structured supervision). Prerequisite: Enrolled in the College of Medicine.

**MDS 7605 Vascular Surgery Selective (1-12).** The goal of the rotation is to provide students with a thorough understanding of the diseases of the peripheral vascular systems - arterial, venous, and lymphatic. Those considering a career in vascular surgery can gauge if the specialty meets their interests and skills while those planning to choose other fields can learn more than enough to know when referral to a vascular surgeon is appropriate. Students will work with our vascular surgeons in the office, hospital wards, operating room, interventional suite, and wound center to learn the about the diagnosis and management of the full spectrum of vascular diseases. They will be exposed to patients with carotid artery disease, aortic and peripheral artery aneurysms, peripheral artery occlusive disease, dialysis access needs, venous thrombosis, varicose veins, and chronic wounds. They will be able to assist in open surgeries and in balloon angioplasty/stent procedures. There will also be opportunities for clinical research if desired. There will be no night or weekend call. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7630 Cardiothoracic Surgery Selective (1-12).** The goal is to allow fourth year medical students with a special interest in Cardiothoracic Surgery, the opportunity to become more familiar with the pathophysiology and clinical presentation of the most common cardiothoracic diseases. It is expected that the Medical Student will be part of the Cardiothoracic Surgical team involved in the daily routine including the operating room, the cardiothoracic intensive care unit and floor. Some exposure to catheter based therapy in the hemodynamics room (cath lab) will also be included. The current trend is to have two separate pathways, one for cardiac and one for thoracic. However, because of the short duration on the service both pathways will be integrated. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7640 Bariatric and Minimally Invasive Surgery Selective (1-12).** This 4-week rotation will give the student exposure to surgical treatments for morbid obesity and the use of minimally invasive surgery in a number of conditions affecting the GI tract, abdominal wall, endocrine glands and spine. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7641 Surgical Oncology Selective (1-12).** The goal of this selective is to introduce the student to the surgeon's role in the multidisciplinary management of patients with cancer. The program includes the evaluation and management of patients with malignant and benign solid tumors and their surgical management. The full spectrum of care includes medical oncology, radiation oncology and

nuclear oncology. The experience will include outpatient clinics, in-patient rounds/consults, surgery and exposure to clinical trials and clinical research. The students will attend and present at weekly multidisciplinary tumor conferences, attend monthly cancer committees, and participate in monthly journal clubs. The opportunity to participate in clinical research will be made available to interested students. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7650 Neurosurgery/Neuroscience Selective (1-12).** This one month selective neurosurgical clerkship will assign interested students to faculty neurosurgeons at one of our affiliated facilities. This rotation presents the student the broad-spectrum of neurosurgical conditions and procedures encountered in a tertiary hospital setting. Each student will receive a syllabus at the beginning of the rotation that covers the fundamentals of neurosurgery for undergraduate medical education. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7660 Plastic and Reconstructive Surgery Selective (1-12).** The selective rotation in plastic surgery is a four (4) week clerkship designed to expose the student to a wide variety of clinical problems and techniques commonly encountered in the field of plastic surgery. The student will be exposed to all subspecialties in plastic surgery, including general reconstructive surgery, pediatric/craniofacial surgery, hand surgery, and aesthetic surgery. Students will rotate through an in-patient setting during the rotation and will be expected to participate in pre-and post-operative office visits, hospital visits, and surgeries. In addition, the student will be expected to master wound closure techniques and other basic plastic surgery technical skills. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7676 Colorectal Surgery Selective (1-12).** This 4-week rotation will introduce the patient to the diagnosis and management of disorders affecting the colon and rectum including conditions such as Crohn's disease, Ulcerative colitis, familial polyposis, colorectal cancer and disorders of evacuation. Students will work with a team of five staff surgeons and five clinical residents. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7682 Trauma Surgery Selective (1-12).** The members of the division of Trauma and support staff strive to provide selective surgical students with a stimulating and unique learning experience and are committed to offering students the support necessary for them to finish this rotation with a firm understanding of a surgical selective rotation. We begin with the assumption that students participating in the surgical selective rotation, have learned normal anatomy, are familiar with normal physiology, and knows the pathology of the common diseases to be covered in this selective. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7700 Anesthesiology Selective (1-12).** This rotation will allow the student supervised hands-on participation of patients in the preoperative evaluation, creation of anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care. The student will also be involved in the placement of regional blocks. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7701 Pediatric Anesthesiology Selective (1-12).**

This rotation will allow the student supervised hands-on participation in the preoperative evaluation, creation of anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care in pediatric patients. The student may also be involved in the placement of regional blocks. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7710 Emergency Medicine (3-5).** This rotation is intended to familiarize students with the wide range of clinical conditions, minor to major, which are responsible for the patient seeking care at an emergency department. Students practice skills in the recognition and management of acute life-threatening conditions and exacerbation of serious disease in a strictly supervised setting. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7760 Radiology Selective (1-12).** This rotation is intended to give students an introduction to the basics of diagnostic imaging, the appropriate choice of imaging method for given clinical problems and the side-effects and risks associated with each. Students will become familiar with imaging findings in common clinical condition. The rotation will involve online modules, small group sessions and 'virtual' and real reading room sessions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7765 Interventional Radiology Selective (1-12).**

This rotation is intended to give students an introduction to the basics of Interventional Radiology and see the role of the modality in the management of medical and surgical problems. Students will participate in the workup, treatment and follow-up of patients undergoing interventional radiology procedures. Students will also gain experience in the interpretation of radiologic imaging such as Ultrasound, CT and MRI. Prerequisite: Enrolled in College of Medicine.

**MDS 7780 Radiation Oncology Selective (1-12).**

This rotation provides students with supervised participation in the care of radiation oncology patients. This includes the diagnostic/clinical evaluation of the patient's disease and the development of treatment plans involving radiation therapy. Students are exposed to state-of-the-art radiation oncology equipment and, during the planning phase, are shown the use of CT imaging with plain and contrast-enhanced techniques for therapy planning and positioning of the patient for radiation treatment. They are exposed to the management of the most common tumors seen in our community, including breast, prostate, lung, GI, skin, and head and neck cancer. Students are introduced to palliative care and the incorporation of integrative medicine in the overall care of the patient. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7800 Neurology Selective (1-12).**

A one month selective neurology clerkship that can be tailored to the student's needs. In-patient and out-patient experiences will be available in addition to simulations and neuro-anatomy lab. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7860 Adult Inpatient Psychiatry Selective (1-12).**

The course allows Period 4 medical students to refine the skills they acquired in the Period 3 Psychiatry Clerkship

through further inpatient and emergency psychiatry experiences. These skills include psychiatric interviewing, diagnostic reasoning, and treatment planning. Students will participate in the initial assessment of patients presenting for admission and will follow inpatients throughout their hospital stay. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**PAS 6005 Human Behavior (2).** This is an integrated primary core course, foundational to the principles of human behavior and psychiatry. It will involve an intensive study of the clinical presentation, pathophysiology, and recognition of various diseases and anomalies in the population. The contextual approach to these disciplines will include the interrelationship of prior and current learning incorporating the basic sciences, anatomy and physiology, ancillary diagnostics and medical term. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6011 Clinical Medicine I (3).** This course is a systematic review and discussion of the epidemiology, pathophysiology, clinical manifestations, diagnosis and management of the most common diseases in humans. It builds upon the foundation of basic science knowledge and clinical assessment skills. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6012 Clinical Medicine II (3).** This course is a systematic review and discussion of the epidemiology, pathophysiology, clinical manifestations, diagnosis and management of the most common disease in humans. It builds upon the foundation of basic science knowledge and clinical assessment skills. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6014 Physiology I (3).** This is an integrated primary core course, foundational to principles of physiology. It will involve an intensive study of the clinical presentation, pathophysiology, and recognition of various disease and anomalies in the population. The contextual approach to these disciplines will include the interrelationship of prior and current learning incorporating the basic sciences, anatomy and physiology, ancillary diagnostics and medical terminology. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6015 Physiology II (3).** This is an integrated primary core course, foundational to the principles of physiology. It will involve an intensive study of the clinical presentation, pathophysiology, and recognition of various diseases and anomalies in the population. The contextual approach to these disciplines will include the interrelationship of prior and current learning incorporating the basic sciences, anatomy and physiology, ancillary diagnostics and medical terminology. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6016 Integration into Clinical Concepts I (2).** This is the first in a series of three courses in the didactic year that provide students the opportunity to translate knowledge gained in the concurrent didactic curriculum courses to clinical problems and to clinical decision making. The course is conducted by the faculty facilitators in a small-group discussion format. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6017 Integration into Clinical Concepts II (2).** This is the second in a series of three courses in the didactic year that provide students the opportunity to translate

knowledge gained in concurrent didactic curriculum courses to clinical problems and to the clinical decision making. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6018 Integration into Clinical Concepts III (2).** This is the final course in a series of three didactic year courses that provide students the opportunity to translate knowledge gained in concurrent didactic curriculum courses to clinical problems and clinical decision making. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6022 Gross Anatomy (4).** Gross Anatomy for Physician Assistant students is a clinically oriented course in which descriptive and surface anatomy are integrated with embryology. Organization of human anatomy is correlated with diagnostic imagine and pathophysiology. The objective is to provide students with a hands-on experience in the study of the human body, an understanding of relevant aspects of human development and its abnormalities. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6023 Pharmacology in Disease Pathology I (2).** These lectures are integrates with the appropriate organ or disease system in which an appreciation of the pathophysiology is helpful for understanding the basis of use of a class of drugs in a particular disease. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6026 Pharmacology in Disease Pathology II (2).** These lectures are integrates with the appropriate organ or disease system in which an appreciation of the pathophysiology is helpful for understanding the basis of use of a class of drugs in a particular disease. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6031 Clinical Skills I (2).** This course is the first in a two course sequence designed to provide students with an overview of skills and procedures needed for clinical practices as a PA. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6032 Clinical Skills II (1).** This course is the second in a two course sequence designed to provide students with an overview of skills and procedures needed for clinical practice as a PA. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6033 Clinical Medicine III (3).** This course is a systematic review and discussion of the epidemiology, pathophysiology, clinical manifestations, diagnosis and management of the most common diseases in humans. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6040 Clinical Assessment I (3).** Students are introduced to the sequential process and skills involved in history taking and physical examination techniques. It emphasizes the "normal" physical exam assessment, and introduces students to assessment techniques for the most common abnormal physical exam findings. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6041 Clinical Assessment II (2).** This course is the second in a two sequence designed to provide students with an overview of skills and procedures needed for clinical practice as a PA. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6050 The Role of PA in American Health Care (3).** The first portion covers major aspects of the US health

care system. The aim is to give students a broad foundation of knowledge regarding the basic components of the health system and its issues and trends. The second portion presents the key components of the PA profession and examines the scope and the role of the PA in medical practice. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6090 Clinical Application of Evidence-Based Practice I (3).** This course provides an introduction to research design and methods including bio statistical analyses that are most commonly encountered within health research. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6091 Clinical Application of Evidence-Based Practice II (2).** Advanced application of research, statistical, and evidence-based medicine concepts presented in Clinical Applications of Evidence-Based Practice II with emphasis on studies assessing therapeutic intervention. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6103 Internal Medicine Clerkship (6).** This eight week clinical course focuses on basic medical practice. The student is exposed to the common medical problems encountered on an in-patient and out-patient medical services. Emphasis is placed on the history and physical examination and the process required in the proper work-up and management of the patient. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6125 Psychiatry Clerkship (3).** This four week clinical course in a psychiatric care setting will allow students to participate in daily rounds and become knowledgeable of the use of psychotropic medications for psychiatric disorders. Group therapy sessions will be a major part of the learning experience. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6184 Medical Microbiology and Infectious Disease (4).** Provides skills to integrate topics in basic microbiology and clinical infectious diseases. Lectures and small group case studies will provide students with an understanding of the basic principles of medical microbiology including microbial pathogenesis and clinical infectious diseases. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6185 Geriatric Medicine Clerkship (4).** This clinical course provides the opportunity for students to become familiar with common physical and psychological problem encountered by the geriatric patient including cardiac and respiratory insufficiency, urinary tract infection, stroked, and diabetes mellitus. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6200 Surgery Clerkship (6).** The student will be exposed to a variety of clinical problems routinely seen on the surgical service. Emphasis will be placed on the preoperative, intraoperative and postoperative management of the patient. In the operating room the student will practice aseptic techniques, operating room principles, and assisting in surgery. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6300 Pediatric Clerkship (6).** This eight week clinical course in pediatric care settings will introduce students to childhood illnesses and normal variations of growth and development. Students will perform histories

and physical examinations and manage patients in the newborn nursery, pediatric out-patient clinic and emergency room. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6400 Family Medicine Clerkship (8).** This clinical course introduces the student to the family practice setting where emphasis is placed on the common disease treated by the primary care practitioners in conjunction with other members of the health care team. The student is exposed to rural epidemiology, cultural diversity, and problems that affect delivery of health care team. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6500 Obstetrics/Gynecology Clerkship (3).** During this four week clinical rotation the student will participate on the obstetrical service managing pregnancy, labor and delivery and be introduced to pre and postnatal complications. The student will also participate in the management of the common gynecologic problems. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6600 Emergency Medicine Clerkship (4).** This required rotation is designed to provide an in-depth exposure to the illnesses and injuries sustained by adults and children that necessitate emergency care. These educational experiences are intended to emphasize interview and examination skills and the performance of techniques and procedures essential to the proper management of emergency illness and injury. Prerequisite: Enrolled in the Physician Assistant Program.

**PAS 6940 Elective Clinical Rotation (3).** This four week elective clinical rotation provides practical clinical exposure and knowledge, whether in an area of primary care or specialty medicine. Prerequisite: Enrolled in the Physician Assistant Program.