

# Herbert Wertheim College of Medicine

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Internal Medicine Clerkship

Amalia Landa-Galindez

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<i>Medical Director, MPAS</i>	<b>Ramiro Perez</b>
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<i>Outreach</i>	<b>Virama Oller</b>
<i>Pathology Curriculum</i>	<b>Amilcar Castellano-Sanchez</b>
<i>Pediatrics Clerkship</i>	<b>Jefry Biehler</b>
<i>Pediatric and Adolescent Health for NHELP</i>	<b>Onelia Lage</b>
<i>PhD Program in Biomedical Sciences</i>	<b>Alexander Agoulnik</b>
<i>PhD Program in Biomedical Sciences</i>	<b>Nazira El-Hage</b>
<i>Physician Assistant Studies Program</i>	<b>Raisa Miller</b>
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<i>Psychiatry Clerkship</i>	<b>Leonard Gralnik</b>
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<i>Student Programs and Career Services</i>	<b>Scarlett Aldana</b>
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<i>Translational Glycobiology Institute</i>	<b>Charles J. Dimitroff</b>
<i>Teaching and Learning</i>	<b>Samantha Lemus-Martinez</b>

## Mission Statement

The Herbert Wertheim College of Medicine develops highly qualified, community-engaged, socially accountable health care professionals, and serves our region, our nation, and the greater world through transformative translational research, medical education, and clinical programs that drive forward innovations in health care.

## History

Florida International University (FIU) Herbert Wertheim College of Medicine (HWCOM) 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 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 HWCOM 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 HWCOM website at

<http://medicine.fiu.edu/education/md/>.

## Admission

HWCOM 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 HWCOM applicant screening process. Following receipt and verification of the AMCAS application and its data, each applicant is invited to complete the HWCOM Secondary Application. A \$30 nonrefundable application fee is required with submission of the HWCOM Secondary Application. The HWCOM Secondary Application provides additional insight into the applicant, exploring the applicant's interest in medicine, and suitability for HWCOM. 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. HWCOM 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	Medical Jurisprudence	1
BMS 6826	Ethical Foundation of Medicine	1
BMS 6827	Foundations for the Community-Engaged Physician	2
BMS 6880	Clinical Epidemiology and Quantitative Research	2
BMS 6891	Professional Behavior I and Humanism	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 (58-59 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
*MDX XXXX	Elective/Neurology Clerkship (MDC 7800)	4-5
MDC 7830	Psychiatry Clerkship	7

##### \*Period 4 (39-40 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

*MDX XXXX	Elective/Neurology Clerkship (MDC 7800)	4-5
MDR 7910	Research Scholarship	9
MDI 7XXX	Subinternship	4
MDS 7710	Emergency Medicine Selective	4
MDE 7XXX	Electives	12

\*The number of credits during Period 3 and Period 4 will depend on when student takes MDC 7800 Neurology Clerkship.

### Green Family Foundation NeighborhoodHELP

HWCOM, 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 HWCOM 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 HWCOP 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 HWCOP 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		Diseases	3
PAS 6300	Pediatric Clerkship	6	GMS 6220	Molecular Genetics and Cellular Biology	6
PAS 6600	Emergency Medicine Clerkship	4	GMS 6481	Physiology and Immunology	4
PAS 6125	Psychiatry Clerkship	3	GMS 6605	Basic Structure of the Human Body	3-4
			GMS 6864	Principles of Clinical Epidemiology and Biostatistics	2
<b>Elective Clinical Rotations (5 credits minimum)</b>					
PAS 6185	Geriatric Medicine Clerkship	4	GMS 6939	Graduate Seminar	1
PAS 6940	Elective Clinical Clerkship	Variable	GMS 6940	Supervised Teaching in Biomedical Science	1

## PhD in Biomedical Science

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 HWCOC 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 Science program at HWCOC 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 Science 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
				Molecular Genetics and Cellular Biology	6
				Physiology and Immunology	4
				Basic Structure of the Human Body	3-4
				Principles of Clinical Epidemiology and Biostatistics	2
				Graduate Seminar	1
				Supervised Teaching in Biomedical Science	1
				Laboratory Rotations	1
				Qualifying Examination	5
				Formation of Committee: Appointment of Dissertation Committee: Preliminary Proposal	1
				Doctoral Dissertation Proposal	3
				Dissertation Proposal Seminar	1
				Research Credits	1-10
				Dissertation Research Credits	1-10
				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 or an external fellowship.

### 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 HWCUM graduate program faculty and at least one who is not a member of the HWCUM 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

HWCUM medical students in the third period of medical study may apply to the Masters of Business Administration (MBA) program. Each college (HWCUM 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 HWCUM. 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 HWCUM 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 HWCUM Office of Student Affairs, and the HWCUM 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.

## Combined MD and MPH -major in Epidemiology Pathway

The Herbert Wertheim College of Medicine (HWCUM) 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 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 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 HWCOC 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.

## Doctorate of Medicine/ Master of Science in Health Informatics and Analytics (MD/MSHIA) Combined Degree Pathway

The Herbert Wertheim College of Medicine (HWCOC) and the Master of Science in Health Informatics and Analytics (MSHIA) program in the Alvah H. Chapman Jr. Graduate School of Business at Florida International University have a combined degree pathway culminating in both a Doctorate of Medicine (MD) and a Master of Science in Health Informatics (MSHIA). Under the combined degree pathway, a student can obtain both degrees in significantly less time than it would take to obtain both degrees if pursued consecutively. Important criteria relating to the joint degree pathway are as follows:

1. HWCOC Medical students in their third year of medical study may apply to the MSHIA program. Each college (College of Medicine and College of Business) will independently review and admit applicants to their programs. Only students admitted

to both programs will enroll in classes in the combined program.

2. Combined degree pathway students will complete the first three years of coursework in the College of Medicine. Then, beginning in the fourth year, students in the combined pathway will interrupt their medical studies and begin classes for the MSHIA program. Classes in the MSHIA program will be taken during fall, spring and summer semesters of the fourth year. During this time students will complete 27 hours of course work in the MSHIA program. Ten credits taken in the medical school will count toward the 37 credits required for the MSHIA degree. At the beginning of the fifth year, students will recommence taking courses in the medical program. Students will graduate with both degrees at the end of the 5 years.
3. Students will be expected to complete a minimum of 37 credits for the MSHIA and 189 credits as well as all requirements for the MD degree. Twenty-seven of those credits will be taken in the College of Business, with ten HWCOC credits being accepted toward the MSHIA degree. There is no change in course requirements for the MD degree.
4. Students will apply for the combined MD/MSHIA pathway in the following manner: Medical students in the fall of their third year (prior to December 30) must be in good academic standing and must get approval from the Medical Student Evaluation and Promotions Committee (MSEPC), the Office of Student Affairs (OSA), and the Office of Academic Affairs (OAA), in order to apply for admission to the MSHIA program. Applications will be reviewed by the MSHIA program admissions committee. Applicants to the combined MD/MSHIA pathway will not be required to submit standardized test scores; they must have a minimum GPA of 3.0.
5. Students begin taking classes in business in the fourth year. The entire fourth year is devoted to classes in the MSHIA program. There is also a mandatory requirement for MSHIA program virtual residencies.

The curriculum in the MD/MSHIA pathway follows a prescribed course of study shown below. The proposed schedule is as follows. (HWCOC does not have semesters. Therefore, we have used Period designations.)

**First Year Period 1 (M1)** August to end of March: College of Medicine curriculum

**Second Year Period 2 (M2)** April to end of March: College of Medicine curriculum

**Third Year Period 3 (M3)** April to end of March: College of Medicine: all required clerkships

**Fourth Year** medical students start M4 period in April. Then, in August start the MSHIA courses.

Medical students must be counseled as to when to take USMLE Step 1 and USMLE Step 2 CK and CS, and which electives, selective or subinternship to engage in prior to taking a leave to pursue the MSHIA program.

The remainder of Year 4 then consists of MSHIA courses. That is, from August through end of June.

**Fifth year-** The MSHIA program ends the end of June. Medical students take the remainder of the 5<sup>th</sup> year, which is the M4 period in the medical school (July through April). Medical students will be counseled as to which electives, selectives or subinternship to take prior to applying for residency in September of this fifth year.

The following courses are required for the MSHIA program.

HIM 6628	Healthcare Data Visualization	3
HIM 6865	Healthcare Database Systems	3
HIM 6682	Quality & Outcome Analytics	3
HIM 6685	Clinical Information Systems	3
HIM 6517	Healthcare Project Management	3
HIM 6124	Technical & Data Architectures & Standards for Health Care	3
HIM 6527	Healthcare Information Security & Privacy	3
HIM 6858	Health Informatics / Analytics Practicum	3

(proposed by student & subject to the approval of the department housing the MSHIA program, Information Systems and Business Analytics)

One of the following courses (selected at the Department's discretion for each cohort) is required for the MSHIA degree:

HIM 6694	Consumer Health Informatics	3
HIM 6937	Special Topics	3

MSHIA Virtual Residencies I, II and III.

Residencies are mandatory, professional development non-credit requirements (typically include virtual meetings and independent activities, for example Six Sigma)

Courses waived in MSHIA: 10 credits

HIM 5065	Intro. To Health & Informatics	3
HIM 6019	Legal & Ethical Aspects of Healthcare	3
HIM 6267	Foundations of Health Informatics & Analytics Administration	1
QMB 6357	Business Stat. Analysis	3
Credits accepted from HWCOM: 10 credits		
MDR 7910	Research Scholarship	4
BMS 6880	Foundations of Clinical Epidemiology & Quantitative Research	2
BMS 6067	US Healthcare Delivery System	2
BMS 6820	Humanism and Medical Jurisprudence	1
BMS 6826	Ethical Foundations of Medicine	1

There are, therefore, 9 courses to be taken in the College of Business, for a total of 27 credits.

Students must earn a minimum GPA of 3.0 in the MSHIA program to be conferred with the MSHIA degree.

## 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 HWCOM 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

## 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 their professionalism skills to improve their 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 University Graduate School application
2. Completed graduate certificate application
3. Bachelor's degree
4. All HWCOM pre-medical course requirements completed
  - a. General Biology with laboratory - 2 semesters
  - b. General Chemistry with laboratory - 2 semesters
  - c. Organic Chemistry with laboratory (satisfied by either Organic Chemistry 1 and 2 or Organic Chemistry 1 and Biochemistry) - 2 semesters
  - d. Physics with laboratory - 2 semesters
  - e. Mathematics - 2 semesters of College Mathematics
  - f. College English - 2 semesters of College English
5. 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).** This 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. Prerequisite: Enrolled in the Herbert Wertheim 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 HWCOC 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 HWCOC 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 HWCOC 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 Skills II course. Prerequisite: Enrolled in the Herbert Wertheim 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. Clinical Skills II (CS II) will prepare students for their clinical clerkship years and provide them with the tools necessary for a lifetime of clinical competence. CS II continues to develop and foster the basic concepts emphasized during CS I and incorporates more advanced interviewing, communication, and physical examination skills. In addition, CS II focuses on the development and practice of clinical reasoning skills by emphasizing the correlation of findings on history and physical examination with underlying pathophysiology, test results, and the ability to develop and refine a working differential diagnosis. The topics addressed in CS II will be aligned with the course work presented contemporaneously in other courses and strands. For example, the cardiovascular examination will be covered

during the cardiovascular organ system module. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6064 End of Life Care (1).** This course teaches the basic concepts associated with end-of-life care for adults. Emphasis is placed on symptom management, preparation for death, and support to adults and their families. The goal is to develop knowledge of specific strategies to support end-of-life care planning among patients, families, and healthcare professionals. Prerequisite: Enrolled in the Herbert Wertheim 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 emphasis of the course is on the second, third and fourth steps of EBM: searching clinical evidence, appraising critically the validity and importance of clinical research evidence, and determining the applicability of evidence into practice. In addition, during this course students will use concepts obtained in previous epidemiology courses as they are applied to help solving clinical problems. The second part of the course is an introduction to the most common complementary and integrative medicine (CIM) therapies used by patients in the United States. Students interact with CIM practitioners from different disciplines during workshops, review several cases in which patients use CIM techniques, and discuss issues related to patient care. Students are required to work on clinical cases, formulate PICO questions (P=Population/Patient/Problem, I=Intervention, C=Comparison, O=Outcome), search clinical evidence-based literature (learned in EBM) and apply that knowledge to advise patients on the safety, efficacy, and appropriateness of CIM therapies and OTC medications. 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).** This 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 Herbert Wertheim 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, and gross anatomy 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, and case presentations will be 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 disease, 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 is an introduction 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 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: Enrolled in the Herbert Wertheim 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 HWCOCM 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 will emphasize the general concepts and vocabulary to lay the groundwork that will be useful during the subsequent courses within the organ systems modules. Areas covered in this course include general concepts of histology, cellular adaptations, necrosis, apoptosis, inflammation, repair, hemodynamic disorders, neoplasia, and pathology as it relates to nutritional/environmental factors, as well as an introduction to forensic medicine and pediatric and genetic disorders. In addition, during this course the students will also receive 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 one hour practical in the classroom. The Infectious Disease component includes an overview of microbes, including bacteria, viruses, fungi, and parasites, important to human disease and disease processes. Specific topic areas of this component of the course include microbial disease, virulence mechanisms, evasion strategies used by pathogens against the antimicrobial immune response, and innate antimicrobial mechanisms. General concepts (building blocks for comprehending organ-specific pathology presented in Period 2) are emphasized in this introductory course. 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 related to: the mechanisms of disease with an understanding of the molecular bases that explain the disease process; the clinical features of the different disorders - genetic or acquired - as well as a description of the morphologic features of these diseases based on the most current available and clinically applicable information. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6632 Endocrine System (3).** This 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 Herbert Wertheim College of Medicine.

**BMS 6633 Cardiovascular and Respiratory Systems (6).** This 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 with 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 approaches, group discussions, simulations, and didactic presentations, with some exposure to clinical skills, will be used to achieve course objectives. Prerequisite: Enrolled in the Herbert Wertheim 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 medical school course is designed to provide students the opportunity to learn the normal development, structure, and function of the musculoskeletal system, expanding upon the foundations from the first-year anatomy course. Common congenital and acquired pathologic conditions, as well as 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; infectious, neoplastic, and mechanical disorders affecting the musculoskeletal system; basis 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 Herbert Wertheim 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). The goal of the course is to give students the skills to develop and prioritize a differential diagnosis, localize lesions based on diagnostic tests and neurological signs, explain the patient's signs and symptoms, as well as propose and interpret diagnostic tests and approaches to therapy. The format of the course includes lectures, laboratory work, small-group case-based discussions, and clinical correlates presented through a variety of application exercises and case discussions. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**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) and lead to an understanding of the mechanisms of diseases involving the kidneys. Prerequisite: Enrolled in the Herbert Wertheim 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 Herbert Wertheim College of Medicine.

**BMS 6820 Medical Jurisprudence (1-12).** Medical Jurisprudence introduces students to health law concepts students will initially encounter in clinical settings and provides a framework to identify and analyze pertinent legal issues. Prerequisite: Enrolled in the Herbert Wertheim 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 Herbert Wertheim 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 working with vulnerable populations. The course places special emphasis on cultural humility, health equity, and the social determinants of health. Students also begin to develop collaborative skills to work effectively as part of interprofessional teams. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6840 Nervous System and Behavior II (1-12).** This course will present 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. Learning will take place in an interactive process using team-based learning, problem-based learning, and some traditional lectures. Independent study and preparation prior to group activities will be an integral part of the learning process. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6880 Clinical Epidemiology and Quantitative Research (1-12).** This course is an introduction to the foundations and methods of clinical and epidemiological research. The main perspective is the use of quantitative methods to address clinical or epidemiological research questions, as well as the use of research to inform the practice of medicine. Concepts from the sciences of clinical epidemiology and biostatistics will be presented to the student in theory and problem-based scenarios. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6891 Professional Behavior I and Humanism (1-12).** This course has two components: Professional Behavior I and Humanism. Professional Behavior I is a course within the Professional Development strand designed to introduce and teach awareness of certain values, emotions, attitudes, and behaviors, as well as to help students develop skills for self-reflection. This course aims to prepare the future physician emotionally for the many diverse psychological experiences associated with the clinical setting and professional life. It challenges students to develop an awareness of their biases and behavioral and personal issues. It also nurtures students' understanding of the emotional stress associated with the practice of medicine, and how these personal stressors can impact patient care and health outcomes. The Humanism component of the course introduces students to mindfulness practices and asks them to reflect on compassion, empathy, the core professional values of medicine, and their own personal values as they relate to their current and future work in health care. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**BMS 6892 Professional Behavior II (1).** This course is a continuation of the Period 1 Professional Behavior experience. Where the focus of the course during Period 1 was on "self-awareness," Period 2 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 (VEAs) 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 HWCOP 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 HWCOP 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 HWCOP 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 HWCOP 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 HWCOP 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 HWCOP 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 HWCOP 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: HWCOC 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 HWCOC 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 HWCOC 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: HWCOC 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: HWCOC Graduate School Enrollment.

**GMS 6942 Laboratory Rotations (1).** Laboratory rotations in specific laboratories of the HWCOC graduate program faculty that will eventually lead to the choice of a thesis laboratory. Prerequisite: HWCOC 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: HWCOC 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: HWCOC 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: HWCOC 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: HWCOC 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: HWCOC 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: HWCOC 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: HWCOC 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 rotation, 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 course, students will work with a variety of geriatric focused health professionals – including physicians, nurse practitioners, therapists, certified nursing assistants, and social workers-- as part of the interdisciplinary care team. Students will be involved with and responsible for admission assessments, ongoing care and management for patients, discharge planning and communicating with patients' 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 6-week 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 7021 Medical Nutrition Elective (2-4).** This two-week elective is designed to provide an advanced training in medical nutrition to fourth year medical students. The main objective is to assist students in building a strong foundation in nutrition to improve patients' health in their medical practices while enhancing their interprofessional skills. This course employs a hands-on approach for prevention and treatment of common nutrition-related diseases and conditions (including diabetes, cardiovascular disease, chronic kidney disease, obesity, cancer, dysphagia, and bariatric surgery) across lifespan in both in-patient and outpatient settings. During this course, students will build competencies in medical nutrition therapy, culinary medicine, nutrition counselling, community nutrition, and climate change. About 60% of the course will be offered in the partner clinical settings, 20% in form of case-based culinary learning sessions and 20% in form of interactive didactic sessions. The clinical rotations will be offered in 3 tracks:

- Pediatrics (feeding disorders, nutrition support, type 1 diabetes, obesity, anorexia nervosa, bulimia)
- Surgery (bariatrics, enteral and parenteral tube feeding, dialysis)
- Internal Medicine (obesity, diabetes, cardiovascular, bariatrics, and dialysis)

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 7058 Medical History through Art (1-12).** This course will provide an overview of medical world history through the lens of art. The sessions highlight different forms of art (i.e., visual and written) and aim to foster a global perspective. We emphasize certain areas of medicine, including anatomy, physical diagnosis, different types of illness, and the evolution of treatment modalities. The elective also includes a field experience portion, which involves visits to local art museums and other arts institutions. The three principal areas of historical focus are: the four protagonists of our Panther Learning Communities (Hippocrates, Pasteur, Semmelweis, and Anderson); the role of women in medicine; and the evolution of several clinical specialties as portrayed through artistic works. The selected specialties will include obstetrics/gynecology, surgery, psychiatry, pathology, preventive medicine, and radiology. 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 HWCOC.

**MDE 7067 Professional Development and Clinical Medicine Capstone (1-5).** 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 Clinical Medicine Capstone is a yearlong required course for all Period 4 medical students. It consists of two components. The first component is a monthly online module including a clinical reasoning case exercise, several EKG and radiology challenge questions, and a short quiz based on a review article covering a topic relevant to internship. The second component, held during the final month of medical school, is a week-long transition to internship bootcamp consisting of small group and individual role play and standardized patient activities designed to simulate common clinical scenarios encountered during internship. Completion of each of the monthly modules and attendance at the bootcamp are mandatory and will be tracked. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7073 One Health Elective (2-4).** This four week clinical elective is designed to give medical students exposure to the field of veterinary medicine and the One Health medicine model. In this course, students will strengthen collaborative and transdisciplinary approaches, with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7092 Teaching Skills Elective (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. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7100 Community Medicine Elective (1-12).** This intensive ambulatory block will serve as a community based primary care experience. Under the supervision of community based FIU faculty, the student will assume a level of independence appropriate to his/her skills and training level. Students will practice patient-centered communication, diagnostic and management skills, clinical reasoning, management of common ambulatory clinical issues, and patient education and negotiation. Experiences may include any primary care specialty (e.g. family medicine, internal medicine, pediatrics, obstetrics

and gynecology, psychiatry). 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 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 7109 Fundamentals of Population Health Elective (2-4).** This elective will provide medical students the essential background to understand the role of population health in medicine. Medical students will have an opportunity to formulate their own Quality Improvement project and/or become involved with an ongoing QI project in an area of their choosing. Quality Improvement projects can be designed towards improving patient outcomes or addressing the social determinants of health using tools such as the Health Risk Profile. This elective is available in both two-week and four-week tracks. In addition, students can use this elective to complete research projects that were initiated in the summer research course or population health work group, if approved by the course director. Through reading materials, the completion of assigned modules and cases, and discussions with faculty, students will develop the skills needed to meaningfully participate in population health initiatives in their future medical careers. Prerequisite: Enrolled in the 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 FIU 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).** This is an 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 regardless of gender, or level of competition. 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 the Herbert Wertheim College of Medicine.

**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, minimal 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).** This fourth year clinical elective in Obstetrics and Gynecology offers the student the opportunity to enhance his/her skills in outpatient diagnosis and management. The student is expected to adhere to the schedule agreed upon with the FIU faculty member, including call duty, rounding, and other clinical responsibilities (ie. those related to surgery, outpatient clinic, or the labor floor). The rotation may be tailored based on the student's specific goals and learning objectives; the student should reach out to the course director to discuss special considerations. Prerequisite: Enrolled in the 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 work closely with IM hospitalist physicians as integral members of the IM hospitalist service. Students provide longitudinal care for hospitalized patients from the time of consultation in the emergency room to the patient's discharge and/or transfer. Students' schedules vary according to the needs of each site; some students may be on call during the rotation. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7204 Hospitalist Service Elective (1-12).** The four week 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. Students provide longitudinal care for hospitalized patients from the time of consultation in the emergency room to the patient's discharge and/or transfer. Students' schedules vary according to the needs of each site; students are expected to take call every fourth night. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7220 Cardiology Elective (1-12).** The objective of this hospital-based rotation is for students to improve their understanding of the pathophysiology of common cardiovascular diseases; the evaluation of acute and chronic cardiac disorders, including indications for invasive and non-invasive studies and EKG interpretation; the appropriate history and physical exam technique, with particular attention to the cardiovascular exam; and the differential diagnosis and first line treatment of prevalent cardiovascular disorders, with an emphasis on disease prevention. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7245 Pulmonology Elective (1-12).** Through time spent both on the inpatient pulmonary consultation service and in the outpatient setting, this rotation will prepare students to effectively care for common cardiopulmonary disorders. In particular, students will be exposed to radiological interpretation of chest imaging and the

interpretation of pulmonary function tests. 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. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**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. The majority of the student's time will be spent working with faculty members in the outpatient clinical setting; although there may be some opportunities for inpatient consultations and other work. 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 the Herbert Wertheim College of Medicine.

**MDE 7260 Endocrinology Elective (1-12).** Students will see patients with both common and rare disorders of the Endocrinology system in the adult out-patient setting and the inpatient consultation service. Students are expected to longitudinally follow patients seen as part of the inpatient endocrinology consult service. Students are expected to prepare, as assigned, topic presentations and case discussions during the week. 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, and upper and lower endoscopy. During the week, students will participate in pathology and radiology conferences geared to gastroenterology and hepatology cases. The course will concentrate on 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. Through exposure to patients with these diseases, students will improve their physical diagnosis skills, recognition of complications of disease, and understanding of therapeutic issues. Students will learn concepts of palliative care, end of life and hospice care. The rotation is mainly inpatient-consult service with some outpatient exposure. 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. Emphasis will be placed on history-taking and the physical examination as they relate to patients with allergic and immunologic conditions.

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 the Herbert Wertheim College of Medicine.

**MDE 7310 Rheumatology Elective (1-12).** This rotation includes office and hospital consultation. The objective is to improve the student's 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 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 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 2 week or 4 week elective 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 inpatient 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 and execute plans for patient care, enter orders into the medical record, and make daily rounds on all patients. 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).** As a member of the inpatient pediatrics care team, students will hone their history and physical exam skills, work on developing a differential diagnosis, and begin to develop and execute diagnostic and treatment plans. 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 and execute plans for patient care, enter orders into the medical record, and make daily rounds on all patients. 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).** This rotation will occur in both the inpatient and outpatient settings, with medical students participating in the care of patients admitted to cardiology service, patients requiring cardiac consultation, and outpatient care visits. Medical students are expected to examine patients admitted to the hospital and make daily rounds on all patients on the cardiology service. 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, and make daily rounds on all patients. 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).** Under the supervision of FIU faculty, students will see patients with both common and rare disorders of the Endocrinology system in the pediatric out-patient setting and the inpatient consultation service. Students are expected to longitudinally follow patients seen as part of the inpatient endocrinology consult service. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7433 Pediatric Gastroenterology Elective (1-12).** Medical students will perform routine histories and physical examinations on all gastroenterology patients,

with emphasis on clinical diagnosis and treatment. Students are expected to take an active role in the management of gastroenterology patients in both inpatient and outpatient settings. Students will also participate in endoscopic procedures. 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 or of those children suspected of having such disorders. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7440 Pediatric Hematology Elective (1-12).** Medical students will evaluate and follow hematology and oncology patients in both the inpatient and outpatient settings. Students will attend all hematology-oncology educational conferences. 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 histories and physical examinations, evaluating the laboratory data obtained, and formulating a therapeutic plan. 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, and make daily rounds on all patients. 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, and make daily rounds on all patients. 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, and make daily rounds on all patients. 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).** This rotation will give students more advanced exposure to the practice of pediatric surgery through hands-on instruction in the in-patient management of surgical patients in the NICU, PICU, and general floors. By the end of the rotation, students will understand the unique anatomic, physiologic, metabolic issues in infants, children, and adolescents with surgical problems. Students will be able to demonstrate competency in the diagnosis and management of common pediatric surgical issues. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7492 Advanced Pediatric Surgery (1-12).** Advanced Pediatric Surgery, combining in-patient, emergency, and out-patient experiences, gives the student, under the direction of FIU faculty, increased responsibility for decisions made for the total care of the pediatric surgical patient. This rotation will expose students to the unique anatomic, physiologic, and metabolic issues seen in infants, children, and adolescents with surgical issues. Students will gain hands-on experience in the in-patient management of surgical patients in the NICU, PICU, and general wards; with focus on hands-on instruction and experience in pre- and post-operative care. 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 the Herbert Wertheim College of Medicine.

**MDE 7497 Pediatric Urology Elective (1-12).** In this rotation, the student will acquire knowledge of pediatric urology and urologic anatomy; develop an understanding

of and ability to perform a pediatric urologic history and physical exam; interview and present patients; develop an understanding of emergent pediatric urologic issues as well as common urologic issues; develop an understanding of a spectrum of pediatric urologic procedures/surgeries; develop an understanding of perioperative urologic issues of both urologic and non-urologic patients; and develop an understanding of the role of a pediatric urologist in the care of patients and when an appropriate referral should be made (emergent or routine). The student will 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.

**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 Room. 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 and lectures, provided to the Pediatric Emergency Medicine fellows and Pediatric residents. 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.

**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. 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 clinical rotation in ophthalmology provides students with a 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. Students are expected to be actively involved in the workup of patients with various presenting concerns; and to interpret and present their findings and suggested clinical management to the attending physician. Students also 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. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7583 Physical Medicine and Rehabilitation and Cancer Rehabilitation Elective (2-4).** Medical students will work with attending physiatrists (physicians specializing in physical medicine and rehabilitation) on a daily basis. They will be taught basic principles of rehabilitation medicine as they apply to spine and musculoskeletal medicine and the care of cancer patients, and exposed to various diagnostic tests used to assess common neuro-musculoskeletal conditions in this population, such as electro diagnostic testing and musculoskeletal ultrasound. They will also be part of discussions on the treatment of these conditions, learning about the role of medications, injections and rehabilitative therapies. The medical student will be asked to do a brief presentation at the end of the rotation on a cancer rehabilitation topic. Opportunity to be involved in a research project can be discussed based on the student's interest. Prerequisite: Enrolled in the 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 observe and participate in surgical procedures involving oral and maxillofacial pathology, IV sedation, infections, major hard and soft tissue trauma, reconstruction, and dento-craniofacial deformities. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7592 Otolaryngology/ENT Elective (1-12).** This clinical elective exposes 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 clinical team 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. Students are expected to be an active member of the patient care team; they should participate in diagnostic evaluations, present their findings to the attending physician, and synthesize assessments and plans. 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, the operating room and hospital. Emphasis will be placed on the initial assessment, physical examination and preoperative evaluation of surgical patients. When appropriate, the student will follow individual patients whose cases are particularly instructive. 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).** Advanced General Surgery, 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, the operating room and hospital. Emphasis will be placed on initial assessment, physical examination and preoperative evaluation of surgical patients. When appropriate, the student will follow individual patients whose cases are particularly instructive. 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 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 provide fourth year medical students with a special interest in Cardiothoracic Surgery with 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. Because of the short duration of the rotation, students will have exposure to both the cardiac and thoracic pathways. 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).** The 4-week Neurosurgery Elective 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. Students are expected to be involved in all aspects of pre-operative, intra-operative, and post-operative care; including care provided in the inpatient, outpatient, and surgical settings. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7660 Plastic and Reconstructive Surgery Elective (1-12).** The Plastic and Reconstructive Surgery Elective is a 4 week rotation designed to expose students to a wide variety of clinical problems and techniques commonly encountered in the field of plastic surgery. Students 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. In addition, students 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).** The Breast Surgery Elective 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 developing a differential diagnosis for breast patients. The student will learn about the surgical management of breast cancer and the integration of other modalities in the overall management of this disease. Working 1-on-1 with an FIU faculty attending surgeon, the student will have some responsibility for inpatient care and will have the opportunity to be first assistant in the operating room. Weekly didactic sessions with the attending physician will cover 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).** In this rotation, the student will acquire knowledge of Urology and urologic anatomy; develop an understanding of and ability to perform a urologic history and physical exam; interview and present patients; 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 a spectrum of urologic procedures/surgeries, including foley catheterization, cystoscopy, and transrectal ultrasound and prostate biopsy by observation and participation; develop an understanding of peri-operative urologic issues both urologic and non-urologic patients via inpatient encounters; 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 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.

**MDE 7676 Colorectal Surgery Elective (1-12).** This 4-week rotation will introduce the student 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 be an integral member of a patient care team that includes both FIU faculty attending surgeons and surgical 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. 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 the Herbert Wertheim College of Medicine.

**MDE 7700 Anesthesiology Elective (1-12).** This rotation will allow the student supervised hands-on participation in preoperative anesthesiology evaluation, creation of an anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, and emergence and postoperative care. Students will also be involved in other procedures commonly performed by anesthesiologists, such as regional blocks for pain control. 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 preoperative anesthesiology evaluation, creation of an anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care in pediatric patients. Students will also be involved in other procedures commonly performed by anesthesiologists, such as regional blocks for pain control. Prerequisite: Enrolled in the 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 conditions. 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 (IR); including IR techniques and procedures, and an understanding of the field's role in the management of medical and surgical problems. Students will participate in the workup, treatment and follow-up of patients undergoing various IR

procedures. Students will also gain experience in the interpretation of radiologic imaging such as ultrasound, CT, and MRI. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7769 Pediatric Radiology Elective (1-12).** This elective will expose students to the essentials of pediatric radiology. Students will spend time working with radiologists who are reading plain films, ultrasounds and cross-sectional imaging studies; as well as those who are performing basic radiologic procedures including fluoroscopy and nuclear medicine. By the end of the rotation, students will be familiar with topics and concerns specific to imaging studies in the pediatric population. 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).** This course is designed to give students an advanced experience in the field of Neurology. By the completion of the rotation, students will be able to perform a detailed neurological examination and describe the neuro-anatomic phases of the examination and any findings. There will be an emphasis of the diagnosis and treatment of common neurologic conditions including headache, neck pain, back pain, peripheral neuropathy, dementia, seizures, multiple sclerosis, pain management, cerebrovascular disease, and altered mental status. Students will additionally receive basic training in reading EMG/NCS and EEG. 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 an FIU faculty member. This rotation will provide students 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; and pain associated with malignancy. Students will gain an understanding of common procedures used in pain management: local anesthesia, joint injections, epidural injections, peripheral nerve blocks, and trigger point injections. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7843 Community Psychiatry Elective (1-12).** This 2-week or 4-week rotation 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. Students will focus on honing their skills related to 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 7845 Advanced Psychiatry Elective (1-12).** This rotation allows Period 4 medical students to become familiar with the clubhouse international model of psychosocial rehabilitation for people with mental illness by immersing themselves in the patient care tasks of the work-unit. To accomplish this, students will interview and contribute to 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. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDE 7862 Adult Inpatient Psychiatry Elective (1-12).** This 2-week or 4-week rotation allows Period 4 medical students to refine the skills they acquired in the Period 3 Psychiatry Clerkship through further inpatient and emergency psychiatry experiences. Students will focus on honing their skills related to 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 7871 Child Inpatient Psychiatry Elective (1-12).** The 2-week or 4-week rotation 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. Students will focus on honing their skills related to 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 7880 Forensic Psychiatry Elective (1-12).** This rotation 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. Students will focus on honing their skills related to 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).** This rotation 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. Students will focus on honing their skills related to 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 7930 Anatomy Elective (1-12).** The 4-week Anatomy Elective 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. Under the direct supervision of faculty anatomists and clinicians, students will perform dissections of all relevant body regions in groups of 4-6 students. Moreover, students will assist in the laboratory teaching sessions of the courses "Structure of the Human Body" and "Musculoskeletal Anatomy for Physiotherapy Students." Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7122 Family Medicine Subinternship (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 Family Medicine Sub-Internship consists of both an ambulatory and inpatient experience. Under the supervision of FIU HWCOC faculty, students assume an appropriate level of clinical independence; allowing them to practice diagnostic and clinical reasoning, disease management skills, and patient communication and education for patients of varying ages and comorbidities. Prerequisite: Enrolled in the 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).** The Sub-Internship in Internal Medicine is intended to prepare students to effectively care for medical conditions commonly encountered during inpatient rotations, including ward emergency scenarios. Building on the skills gained during period 3, students will take a more active role in patient care; including admitting patients, documenting in the electronic medical record, entering orders, and coordinating and implementing the patient's care plan. 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. Subinterns will work in a team under the direct supervision of a pulmonary/critical care fellow and a senior resident. Students will assist in the admission, evaluation, and management of patients admitted to the Medical Intensive Care Unit (MICU). 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).** The Pediatric Medicine Sub-internship gives the student increased responsibility for decisions made for the total care of the patient. In general, the student is expected to function more as an intern than as a third year student. During the sub-internship, the student will be exposed to all competencies central to medical education; including interpersonal skills, professionalism, practice and systems based learning, patient care, and medical knowledge. Sub-interns are expected to examine patients admitted to the inpatient hospitalist services, write daily progress notes and enter orders in the medical record, develop and assist in implementation of plans for care, and make daily rounds on all patients. Students will participate in all academic activities of the Hospitalist Service, including simulation training and didactic lectures. 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 Orthopedics sub-internship will present the sub-intern with a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. The sub-intern will be involved in an intensive in-patient experience and will have significantly increased responsibility; involving taking an orthopedic history, performing a focused musculoskeletal exam, participating in the primary workup of new patients and writing orders. Over the course of the rotation, the sub-intern should improve his or her ability to manage both common and complex patient presentations. The sub-intern should develop advanced skills in fracture treatment and cast application. He or she should be involved in a wide array of pediatric orthopedic surgeries and the management of postoperative pediatric orthopedic patients. The sub-intern will participate in daily patient care tasks, take night call, write notes, and dictate discharge summaries. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7490 Pediatric Surgery Subinternship (1-12).** The Pediatric Surgery sub-internship, combining in-patient, emergency, and out-patient experiences, gives the student increased responsibility for decisions made for the total care of the pediatric surgical patient. This rotation will expose students to the unique anatomic, physiologic, and metabolic issues seen in infants, children, and adolescents with surgical issues. In general, the student is expected to function as an intern, or junior resident. Students will gain hands-on experience in the in-patient management of surgical patients in the NICU, PICU, and general wards; with focus on hands-on instruction and experience in pre- and post- operative care. 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 a greater in-depth experience in general surgery or who are seriously considering surgery as a possible career choice. It serves as an exploratory path for a planned career in general surgery or other surgical sub-specialties. In this role, the subintern will have more responsibilities than a period 3 clerkship student. The student will examine patients, assist in surgery, participate in pre-operative and post-operative care and will also be encouraged to develop his/her

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 rotation. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7620 Cardiothoracic Surgery Subinternship (1-12).**

The goal of the Cardiothoracic Surgery Sub-internship is to give fourth year medical students with a specific interest in the field 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 become an integrated part of the Cardiothoracic Surgical Team and assume the role of a sub-intern involved in all aspects of pre-operative, peri-operative, and post-operative patient care; including in the operating room, the cardiothoracic intensive care unit (CTICU) and general inpatient floor. Some exposure to catheter based therapy in the hemodynamics room (cath lab) will also be included. Given the four-week duration of the sub-internship, the thoracic and cardiac pathways will be integrated in order to provide students with exposure to both fields. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDI 7660 Plastic and Reconstructive Surgery Subinternship (1-12).**

The Subinternship in Plastic Surgery is a 4-week experience designed to provide the student with advanced exposure to the clinical problems and techniques commonly encountered in the field of plastic surgery, with the goal of preparing the student for residency in this discipline. 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 further advance his or her 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 of and ability to perform a urologic history and physical exam; interview and present patients; 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 a spectrum of urologic procedures/surgeries, including foley catheterization, cystoscopy, and transrectal ultrasound and prostate biopsy by observation and participation; develop an understanding of peri-operative urologic issues of both urologic and non-urologic patients via inpatient encounters; 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 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, 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.

**MDS 7160 Obstetrics/Gynecology Selective (1-12).**

This fourth year clinical selective in Obstetrics and Gynecology offers the student the opportunity to enhance his/her skills

in outpatient diagnosis and management. The student is expected to adhere to the schedule agreed upon with the FIU faculty member, including call duty, rounding, and other clinical responsibilities (ie. those related to surgery, outpatient clinic, or the labor floor). The rotation may be tailored based on the student's specific goals and learning objectives; the student should reach out to the course director to discuss special considerations. 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 four week Hospitalist Service Selective 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. Students provide longitudinal care for hospitalized patients from the time of consultation in the emergency room to the patient's discharge and/or transfer. Students' schedules vary according to the needs of each site; students are expected to take call every fourth night. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7220 Cardiology Selective (1-12).** This hospital-based selective 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 develop a differential diagnosis. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7245 Pulmonology Selective (1-12).** Through time spent both on the inpatient pulmonary consultation service and in the outpatient setting, this rotation will prepare students to effectively care for common cardiopulmonary disorders. In particular, students will be exposed to radiological interpretation of chest imaging and the interpretation of pulmonary function tests. 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. 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, and upper and lower endoscopy. During the week, students will participate in pathology and radiology conferences geared to gastroenterology and hepatology cases. The course will concentrate on 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. Through exposure to patients with these diseases, students will improve their physical diagnosis skills, recognition of complications of disease, and understanding of therapeutic issues. Students will learn concepts of palliative care, end of life and hospice care. The rotation is mainly inpatient-consult service with some outpatient exposure. 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. 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.

**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 medical management of critically ill patients with cardiothoracic problems. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7350 Nephrology Selective (1-12).** The 4-week Nephrology Selective 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 who 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, and make daily rounds on all patients. 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).** This rotation will occur in both the inpatient and outpatient settings, with medical students participating in the care of patients admitted to cardiology service, patients requiring cardiac consultation, and outpatient care visits. Medical students are expected to examine patients admitted to the hospital and make daily rounds on all patients on the cardiology service. 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, and make daily rounds on all patients. 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, and make daily rounds on all patients. 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).** Pediatric Surgery Selective, combining in-patient, emergency, and out-patient experiences, gives the student, under the direction of FIU faculty, increased responsibility for decisions made for the total care of the pediatric surgical patient. This rotation will expose students to the unique anatomic, physiologic, and metabolic issues seen in infants, children, and adolescents with surgical issues. Students will gain hands-on experience in the in-patient management of surgical patients in the NICU, PICU, and general wards; with focus on hands-on instruction and experience in pre- and post-operative care. Prerequisite: Enrolled in the 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 Room. 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 and lectures, provided to the Pediatric Emergency Medicine fellows and Pediatric residents. 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 selective 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 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 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. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7630 Cardiothoracic Surgery Selective (1-12).** The goal is to provide fourth year medical students with a special interest in Cardiothoracic Surgery with 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. Because of the short duration of the rotation, students will have exposure to both the cardiac and thoracic pathways. 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).** The 4-week Neurosurgery/Neuroscience Selective 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. Students are expected to be involved in all aspects of pre-operative, intra-operative, and post-operative care; including care provided in the inpatient, outpatient, and surgical settings. 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 4-week rotation 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 student 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 be an integral member of a patient care team that includes both FIU faculty attending surgeons and surgical residents. Prerequisite: Enrolled in the Herbert Wertheim College of Medicine.

**MDS 7682 Trauma Surgery Selective (1-12).** This selective provides the 4th year medical student experience in the evaluation and treatment of the patient with severe trauma. 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 the Herbert Wertheim College of Medicine.

**MDS 7700 Anesthesiology Selective (1-12).** This rotation will allow the student supervised hands-on participation in preoperative anesthesiology evaluation, creation of an anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, and emergence and postoperative care. Students will also be involved in other procedures commonly performed by anesthesiologists, such as regional blocks for pain control. 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 anesthesiology evaluation, creation of an anesthesia plan, intravenous line placement, induction of general anesthesia and airway management, monitoring of anesthesia, emergence and postoperative care in pediatric patients. Students will also be involved in other procedures commonly performed by anesthesiologists, such as regional blocks for pain control. Prerequisite: Enrolled in Herbert Wertheim College of Medicine.

**MDS 7710 Emergency Medicine Selective (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 Diagnostic 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 (IR); including IR techniques and procedures, and an understanding of the field's role in the management of medical and surgical problems. Students will participate in the workup, treatment and follow-up of patients undergoing various IR procedures. Students will also gain experience in the interpretation of radiologic imaging such as ultrasound, CT, and MRI. Prerequisite: Enrolled in the Herbert Wertheim 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).** The Neurology Selective is a 4-week rotation that can be tailored to the student's needs and specific interests. In-patient and out-patient experiences are 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. Students will focus on honing their skills related to 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 or 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, stroke, 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 (1-6).** This elective clinical rotation provides practical clinical exposure and knowledge, whether in an area of primary care or specialty medicine. This course may be repeated. Prerequisite: Enrolled in the Physician Assistant Program.