



**MEMORANDUM**

**To:** Julio Frenk  
University President

**From:** Linda L. Neider  
Chair, Faculty Senate

A handwritten signature in blue ink, appearing to read 'L. Neider', is written over the 'From:' field.

**Date:** November 19, 2020

**Subject:** Faculty Senate Legislation #2020-20(B) –Update on Phase 2 and Phase 3 Restructuring of the Doctor of Medicine (MD) Curriculum as Part of the NextGenMD, Miller School of Medicine

Reference Legislation #2019-59(B), was approved with the proviso that the proponents report to the Senate before Phases 2 and 3 are finalized, but no longer than a year, to give an outline of the plans for these phases.

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The Faculty Senate, at its November 18, 2020 meeting, had no objections to the proposal from the Miller School of Medicine for Phase 2 and Phase 3 of the restructuring of the MD curriculum as part of the NextGenMD program.

The proposal is enclosed for your reference.


This legislation is now forwarded to you for your action.

LLN/rh

cc: Jeffrey Duerk, Executive Vice President and Provost  
Henri Ford, Dean, Miller School of Medicine  
Amar Deshpande, Professor, Medicine, Miller School of Medicine  
Gauri Agarwal, Associate, Professor, Medicine, Miller School of Medicine  
Latha Chandran, Professor, Pediatrics, Miller School of Medicine

**CAPSULE:** Faculty Senate Legislation #2020-20(B) –Update on Phase 2 and Phase 3 Restructuring of the Doctor of Medicine (MD) Curriculum as Part of the NextGenMD, Miller School of Medicine

**PRESIDENT’S RESPONSE**

APPROVED:  \_\_\_\_\_ DATE: 1/22/21  
(President’s Signature)

OFFICE OR INDIVIDUAL TO IMPLEMENT: Henri Ford, Dean, Miller School of Medicine \_\_\_\_\_

EFFECTIVE DATE OF LEGISLATION: IMMEDIATELY

(pending any additional approval by the Board of Trustees)

NOT APPROVED AND REFERRED TO: \_\_\_\_\_

REMARKS (IF NOT APPROVED): \_\_\_\_\_

# MDDR\_MD: MD PROGRAM

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## In Workflow

1. PG University Accreditation (pxm491@miami.edu)
2. PG FS Office for GWC (rhardeman@miami.edu; yvaldes1@miami.edu; leslie.leonard@miami.edu)
3. PG FS GWC (rhardeman@miami.edu; yvaldes1@miami.edu; leslie.leonard@miami.edu)
4. PG Faculty Senate (rhardeman@miami.edu; yvaldes1@miami.edu; leslie.leonard@miami.edu)
5. PG FS Office for President (rhardeman@miami.edu; yvaldes1@miami.edu; leslie.leonard@miami.edu)
6. PG Registrar (j.zwanziger@miami.edu)

## Approval Path

1. Thu, 29 Oct 2020 23:13:04 GMT  
Patty Murphy (pxm491): Rollback to Initiator
2. Fri, 30 Oct 2020 11:24:13 GMT  
Patty Murphy (pxm491): Approved for PG University Accreditation

## History

1. Mar 16, 2020 by Alex Mechaber (amechabe)
2. May 17, 2020 by Carol Archaga (carchaga)
3. Sep 29, 2020 by Patty Murphy (pxm491)

Date Submitted: Fri, 30 Oct 2020 11:20:21 GMT

## Viewing: MD Program : MDDR\_MD

**Last approved: Tue, 29 Sep 2020 21:11:36 GMT**

**Last edit: Fri, 30 Oct 2020 11:20:16 GMT**

Changes proposed by: Patty Murphy (pxm491)

## Date Entered in CaneLink

## Date Entered in CaneLink

Please list the authors of this proposal including name, rank/title, program/department, and school.

## Proposer(s) Name

Amar R Deshpande MD, Professor of Medicine, MSOM  
Gauri Agarwal MD, Associate Professor of Medicine, MSOM  
Latha Chandran MD, Professor of Pediatrics, MSOM

## Change Type

All Other Changes

## Provide a brief summary of the change

In early 2020, we received unanimous approval from the MSOM Faculty Council for the overall design of the NextGenMD curriculum with implementation beginning in July 2020. The GWC and Faculty Senate approved the details of Phase 1 and requested a return visit to present Phases 2 and 3 of the curriculum in greater detail.

## Career

Medicine (MD)

## Academic Structure

School/ College	Department
Miller School of Medicine	Medicine

## Plan Type

Major and/or Degree

## Degree Type

Doctorate

**Degree Name**

Doctor of Medicine

**Plan Name**

MD Program

**Will there be any subcomponents within the program such as concentrations, specializations, thesis/non-thesis options, or tracks?**

Yes

**Subcomponents**

Subcomponent Type	Subcomponent Name
Track	Accelerated Pathway

**Effective Term**

Fall 2020

**First Term Valid**

Fall 2020

**Program Instruction Mode**

In Person

**Where is the program offered?**

Location	Please provide the % of instruction at each location.
Medical Campus	100

**Program Length (Years)**

4

**Total Credits**

135/142

**To Be Published in the Academic Bulletin****Program Overview****General Information**

The University of Miami Miller School of Medicine enrolls approximately 200 students each year. It has been a long-standing policy of the School of Medicine to admit students with diverse backgrounds. Therefore, qualified non-traditional students, women, socio-economically disadvantaged students, and minorities underrepresented in medicine, are especially encouraged to apply.

**U.S. Citizenship**

All applicants must be US citizens or permanent residents of the United States with an alien registration receipt (green) card in their possession at the time they complete the AMCAS application. Applicants who apply as permanent residents will be required to submit a photocopy of their alien registration receipt card.

**Florida Residents**

Since the School of Medicine is no longer subsidized by the State of Florida, Florida residents are not given preference in admissions decisions. For tuition purposes, a Florida resident is one whose parents or guardians (or the applicant, if independent) have established legal residence in, and resided permanently in, the State of Florida for twelve consecutive months immediately prior to the first day of classes. Applicants cannot claim Florida residency simply based on the fact that they lived in Florida coincident with attending a college or university. To receive initial consideration as a Florida resident, applicants must declare Florida as their state of residence on their AMCAS application. Exceptions to this requirement will not be granted.

**Residents of Other States**

The Miller School of Medicine has made a significant commitment to enroll more students from outside the state of Florida. This departure from previous policy reflects the growing national prominence of the School of Medicine and the national and international reputation of our clinical facilities and specialty centers, and our outstanding research programs.

**Financial Assistance Information**

The University of Miami Miller School of Medicine is a private medical school. It has been a priority of the medical school to keep the tuition and fees very reasonable. Please visit our Financial Assistance Website. (<http://mededu.med.miami.edu/contact-us/student-financial-assistance/>) (<http://mededu.med.miami.edu/contact-us/student-financial-assistance/>) (<http://mededu.med.miami.edu/contact-us/student-financial-assistance/>)

**Additional Information**

For additional information, write, call, or send an email message to:

Office of Admissions (R-159)

University of Miami Miller School of Medicine PO Box 016159

Miami, FL 33101

(305)-243-3234

(305)-243-6548 (FAX)

med.admissions@miami.edu (admissions@miami.edu) (admissions@miami.edu)

### Program Mission Statement

## Mission

The NextGenMD curriculum strives to empower learners to transform lives and inspire learners to serve the global community. The curriculum will produce transformational leaders who will shape the future of medicine, direct health systems, and champion discovery and its translation into clinical interventions.

### Program Goals

## Goals

The NextGenMD curriculum emphasizes:

- Active, case-based, collaborative learning with early clinical experiences
- Integration of basic sciences, clinical medicine, and health system sciences throughout all phases of the curriculum
- Personalized areas of scholarly concentration including options for 4-year dual/joint degrees or an accelerated transition to residency after three full years of medical school
- Opportunities to study social and cultural determinants of health in South Florida to address health disparities
- Graduates of the program will demonstrate knowledge, skills, and attitudes/behaviors in four core domains: 1) Professionalism and Interpersonal Skills; 2) Health Systems Sciences; 3) Biomedical Knowledge and Clinical Care; and 4) Practice Based Learning

### Student Learning Outcomes

## Student Learning Outcomes

Students will demonstrate a mastery of biomedical knowledge (e.g. anatomy, biochemistry, immunology, etc) required to enter residency training through internal and external assessment methods including at 7 Milepost weeks throughout the curriculum.

Students will demonstrate a mastery of clinical skills through internal and external assessments methods including at 7 Milepost weeks throughout the curriculum.

Students will demonstrate application of knowledge and skills to clinical decision-making and the practice of medicine, including organizing clinical data, formulating differential diagnoses, synthesizing clinical information, and creating diagnostic and therapeutic plans. There will be internal and external assessments methods including at 7 Milepost weeks throughout the curriculum.

Students will meet the following institutional educational objectives in four domains:

### Professionalism and Interpersonal Skills

Develop and maintain a professional identity

Maintain emotional, physical, and mental health in pursuit of continual personal and professional growth

Collaborate as a member of an interprofessional team (including patients and caregivers)

### Health Systems Science

Work as a leader in the health care delivery system

Recognize and address social and environmental determinants of health for patients and populations

### Biomedical Knowledge and Clinical Care

Obtain, organize, and communicate clinical data

Apply foundational science to analyze and prioritize clinical data

Recommend management for core clinical experiences

### Practice-Based Learning

Construct, pursue, and revise an individualized learning plan

Identify and investigate problems in the natural, social, and health systems sciences that influence patient health and well-being

Form clinical questions and retrieve evidence to advance patient care

### Curriculum Requirements

## Curriculum Requirements

The NextGenMD curriculum is divided into 3 phases. We discussed Phase 1 and Medicine as a Profession (MAP) in detail at our prior Faculty Senate presentation when Phase 1 including MAP was fully approved; the focus here is on Phase 2, Phase 3, and Scholarly Concentration.

**Phase 1** is grounded in the foundational and translational sciences that are taught and learned in a case-based format that incorporates laboratory and clinical science, health systems science, social determinants of health, core clinical skills, and professionalism. Phase 1 is completed over 14 months, inclusive of 2 months of summer capstone work.

- Phase 1a is 4 weeks and largely under the Medicine as a Profession longitudinal theme (see later).
- Phase 1b is 12 weeks and is comprised of foundational, clinical, health systems sciences taught in the context of the healthy patient.
- Phase 1c is 30 weeks and incorporates foundational, clinical, and health systems sciences taught in a symptom-based format.

**Phase 2** consists of integrated clinical clerkships, where continued themes of foundational, clinical, and health systems sciences are embedded within clerkships. Each integrated clinic clerkship block has well defined core topics and learning outcomes mapped to the corresponding entrustable professional activities as defined by the AAMC.

- Phase 2 is completed over 12 months and begins with an introductory “Transition to the Clerkships” course that covers core content areas: defining the medical student role, interprofessional teamwork, basic procedural skills, basic documentation skills, self-directed learning techniques, and how to be an effective learner in the clinical setting. Additionally, the course covers content that is reinforced throughout the entire phase including social determinants of health, patient safety, leadership and health advocacy, wellness promotion, and quality improvement.
- Phase 2 is divided into four, 12-week integrated clerkships as follows: Medicine as a Profession (inpatient/outpatient Internal Medicine and its subspecialties), Women and Children’s Health (Obstetrics/Gyn and Pediatrics), From the ER to the OR (Surgery, Anesthesia, Emergency Medicine), and Mind, Matter and Medicine (Neurology, Psychiatry, Family Medicine).
- During each integrated clerkship block, foundational science and longitudinal thematic content is delivered using multiple modalities including online learning and interactive small group sessions, in addition to case-based collaborative learning that occurs in the introductory week and continues weekly during each clerkship block.
- The foundational science content includes Anatomy/Cell Biology, Biochemistry, Microbiology/Immunology, Pharmacology, and Physiology; the longitudinal thematic content includes Oncology, Genetics, Radiology, and Pathology.
- Multimodal assessment methods will be used during Phase 2 including objective structured clinical examinations (OSCE), National Board of Medical Examiners (NBME) subject exams, quizzes, case discussions, case presentations with write-ups, faculty and housestaff evaluations, and journal article presentations, among others.
- Each 12-week clerkship has intentional integration of core concepts across specialties, including dedicated time for specialty-specific boot camp experiences.
- Scholarly Concentration and Medicine as a Profession content are delivered at pre-determined sessions during the integrated clinical clerkships as well as during Milepost weeks.

**Between Phases 2 and 3**, students are provided dedicated time to prepare for and take USMLE Steps 1 and 2CK.

**Phase 3** occurs over 17 months and allows all students to develop a personalized pathway of excellence in a specialized area of interest, including scholarly work, dual/joint degree pursuits, or an early transition to residency. All students are required to select a pathway of emphasis for their scholarly work or obtain a dual degree from a selection of existing 4-6-year dual/joint degrees in addition to new 4-year dual/joint degrees being developed. A select group of students who meet defined competencies can enter residency early after 3 years. The accelerated pathway to residency is available to no more than 10% of the class and includes residency programs within our institution. Phase 3 is dedicated to career exploration, advanced integrated science selectives, advanced clinical selectives, a critical care experience, a sub-internship, and preparation for internship. Students have opportunities to explore their interests through a variety of elective experiences both at University of Miami and other accredited medical schools. Scholarly pathways start in Phase 1 will continue in Phase 3 and culminate in the presentation of a capstone project. Dual and joint degree students will complete their degree requirements during Phase 3. Below are the required courses in Phase 3.

1) **Sub-Internship:** The sub-internship (sub-I) experience offered during Phase 3 (to start January 2023) is intended to provide a learning experience for the students that prepares them to serve as competent interns and effective members of an interdisciplinary team. All sub-internships are expected to provide an opportunity for students to learn and demonstrate competency in core objectives (available in a supplemental document). The sub-internship is a 4 week inpatient experience.

2) **Advanced Integrated Science Selective:** Phase 3 students who have successfully completed Phase 2 clerkships are required to choose one selective (4 weeks duration) from a variety of advanced integrated science options that explicitly translate foundational science to clinical practice and allow students to reinforce important foundational science concepts taught in Phase 1 and 2. These selectives emphasize interactive teaching methods and explore basic science topics that are related to students’ career choices or academic interests. This is a 4 week experience.

3) **Advanced Clinical Selective:** The student will be given the opportunity to exercise critical clinical thinking and patient care skills (e.g. diagnosis, prognosis, and management) while under the direct supervision of attending physicians and senior residents/fellows. The attending and resident physicians will model the principles and commitments of a physician’s professional life. Students will follow the care of assigned patients with the responsible physician. The students must be able to work up and manage the medical or surgical care of selected patients under the supervision of residents and attending physicians. This may include both outpatient and inpatient experiences and is 4 weeks in duration.

4) **Critical Care Selective:** All students are required to complete a 2 week rotation in a critical care setting of their choice (SICU, MICU, CCU, NICU, Pediatric ICU) to become comfortable with the basics tenets of the care of acutely ill patients.

5) **Transition to Internship/Residency.** In the semester of Phase 3, students will have a 2-week didactic and experiential course to review content necessary for becoming an effective intern. An additional 2 weeks will be spent in a specialty-specific course learning the tools needed by an intern in a boot camp within their career of choice.

The **Scholarly Concentration** houses formalized research pathways and the Dual and Joint degree programs. Each student is required to either complete a second degree or participate in a pathway program, culminating in a capstone research project. The goal is to create well-rounded, transformational leaders in academic medicine through a formalized program of topical study paralleling every medical student's clinical training. Every student will have a basis in practical applications of population health, and a fundamental understanding of research methodology and practical application. There are currently 26 Pathways and 3 four-year dual/joint degree programs with more being developed and 5-8 year dual/joint degrees also available. Pathway students are required to complete a 2-credit course in the Spring semester of Year 1 (Introduction to the Pathway) which includes didactic instruction and the beginning of mentored research, 1 credit of mentored research (Capstone Research) in the summer of the first year, and a 3 credit advanced clinical research elective in Phase 3. The mentored research project culminates in the generation of a scholarly concentration portfolio comprising a written report and a public poster presentation in the final Spring semester. Accelerated Pathway to Residency students have a slightly different schedule for completion of these credits due to the varied requirements for completion of Phase 3 (5 months rather than 17 months). Students enrolled in a dual or joint degree program must complete the MD curriculum and that of their second degree for graduation and therefore are not required to participate in a Pathway. These degree programs generally require at least 30 credits, including 3-6 credits for research; such activities thus fulfill the requirements for scholarly concentration work required of students enrolled in Pathways of Emphasis. Research training and mentorship in NextGenMD are part of the formalized curriculum to both alleviate pressure on students as well as improving the quality of their research education.

## MD Curriculum

Code	Title	Credit Hours
<b>Phase 1: Pre-Clerkship</b>		
MDR 550	Introduction to the Medical Profession	3
MDR 526	Biomedical Principles of Health I	5
MDR 527	Biomedical Principles of Health II	5
MDR 531	Medicine as a Profession 1	4
MDR 532	Medicine as a Profession 2	4
MDR 533	Medicine as a Profession 3	1
MDR 520	Symptoms, Signs, and Disease 1	3
MDR 521	Symptoms, Signs, and Disease 2	4
MDR 522	Symptoms, Signs, and Disease 3	6
MDR 523	Symptoms, Signs, and Disease 4	3
MDR 524	Symptoms, Signs, and Disease 5	6
MDR 525	Symptoms, Signs, and Disease 6	5
MDR 535	Introduction to Scholarly Concentration - COURSE PROPOSAL IN PROGRESS	2
MDR 536	Scholarly Concentration I - COURSE PROPOSAL IN PROGRESS	0
MDR 537	Scholarly Concentration II - COURSE PROPOSAL IN PROGRESS	1
<b>Phase 2: Integrated Clerkships</b>		
MDR ###	Transition to Clerkship	1
MDR 715	Peds/OBG Integrated Clerkship	12
MDR 716	From ED to OR Integrated Clerkship	12
MDR 717	Practice of Medicine Integrated Clerkship	12
MDR 718	Mind, Matter, and Medicine Integrated Clerkship	12
MDR ###	Medicine as a Profession Clerkships 1	1
MDR ###	Medicine as a Profession Clerkships 2	3
MDR ###	Medicine as a Profession Clerkships 3	2
<b>Phase 3: Advanced</b>		
MDR ###	Sub-Internship	4
MDR ###	Clinical Selective	4
MDR ###	Integrated Science Selective	4
MDR ###	Critical Care Selective	2
MDR ###	Transition to Residency	2
MDR ###	Specialty Boot Camp	2
Electives		14
MDR ###	Scholarly Concentration	3
Total Credit Hours		142

## Accelerated Pathway

Code	Title	Credit Hours
<b>Phase 1: Pre-Clerkship</b>		
MDR 550	Introduction to the Medical Profession	3
MDR 526	Biomedical Principles of Health I	5
MDR 527	Biomedical Principles of Health II	5
MDR 531	Medicine as a Profession 1	4
MDR 532	Medicine as a Profession 2	4
MDR 533	Medicine as a Profession 3	1
MDR 520	Symptoms, Signs, and Disease 1	3
MDR 521	Symptoms, Signs, and Disease 2	4
MDR 522	Symptoms, Signs, and Disease 3	6
MDR 523	Symptoms, Signs, and Disease 4	3
MDR 524	Symptoms, Signs, and Disease 5	6
MDR 525	Symptoms, Signs, and Disease 6	5
MDR 535	Introduction to Scholarly Concentration - COURSE PROPOSAL IN PROGRESS	2
MDR 536	Scholarly Concentration I - COURSE PROPOSAL IN PROGRESS	2
MDR 537	Scholarly Concentration II - COURSE PROPOSAL IN PROGRESS	6
<b>Phase 2: Integrated Clerkships</b>		
MDR ###	Transition to Clerkship	1
MDR 715	Peds/OBG Integrated Clerkship	12
MDR 716	From ED to OR Integrated Clerkship	12
MDR 717	Practice of Medicine Integrated Clerkship	12
MDR 718	Mind, Matter, and Medicine Integrated Clerkship	12
MDR ###	Medicine as a Profession Clerkships 1	1
MDR ###	Medicine as a Profession Clerkships 2	3
MDR ###	Medicine as a Profession Clerkships 3	2
<b>Phase 3: Advanced</b>		
MDR ###	Sub-Internship	4
MDR ###	Clinical Selective	4
MDR ###	Integrated Science Selective	4
MDR ###	Critical Care Selective	2
MDR ###	Transition to Residency	2
MDR ###	Specialty Boot Camp	2
MDR ###	Scholarly Concentration	3
Total Credit Hours		135

### Plan of Study

## Plan of Study

### Admission Requirements

N/A. No change from current admissions requirements.

### Rationale

#### Rationale

The faculty through our LCME self-study from 2015-17 determined that curricular renewal was indicated, leading to NextGenMD. The NextGenMD curriculum, born out of the work of a 2017 taskforce and 8 planning teams working since then, identified 6 key pillars of the new curriculum including: building from the right students, assessments informing curriculum, disarticulation of the traditional 2+2 curricular structure, emphasis on active learning methodologies, longitudinal skills and mentoring, and an institutional commitment to education.



## Relationship to Other Programs

We have worked with the program directors from our approved dual/joint degree programs (MD/MPH, MD/MS Genomic Medicine, MD/MBA, MD/PhD, MD/JD) to determine the best way to coordinate these programs within the new NextGenMD curriculum, including successfully converting the 5-year MD/MBA into an integrated 4-year MD/MBA.

## Laboratory Facilities, Equipment, and Space Available and Needed to Support the Program

The NextGenMD curriculum in Phases 1 and 2 requires the use of small group and large group teaching rooms for self-directed case-based inquiry and guided case-based collaborative learning. In addition to Rosenstiel Medical Sciences Building (RMSB), Calder Medical Library has 7 small group teaching rooms for a total of 31 small group teaching rooms. To further accommodate medium group sessions, the Dean re-allocated six departmental teaching spaces for the NextGenMD curriculum; all of these departmental classrooms can be configured for team-based learning, have been updated with the latest audiovisual technology, and are in close proximity to RMSB. Finally, 6 new TBL rooms in the medical school building will be ready for August 2021 to allow all classes to be in close proximity and not require the departmental classrooms. Facilities to accommodate an entire cohort of 200 students is rarely needed but can be accommodated in 2 existing auditoria in RMSB. Examining rooms with video capacity are required for the OSCE exercises and are provided by the Gordon Center. During the COVID-19 pandemic most of this learning moved to the Zoom platform including breakout rooms, but we plan to move back to live learning when feasible.

## Information Technology

The NextGenMD curriculum employs new educational technology and learning platforms in addition to continuing to use Blackboard, the learning management system supported by the University of Miami. The Miller School has already been utilizing Medtrics for curriculum management and mapping. In Phase 1, NextGenMD has expanded its use of Medtrics for student assessment, course management and scheduling in addition to student portfolios. The Miller School had also been using the Osmosis platform as a companion for online videos, self-assessment questions, and a student performance dashboard in selected pre-clerkship courses/modules. NextGenMD has expanded the use of Osmosis for courses/modules in Phase 1. Our directors and faculty have worked with the Osmosis team to update content videos in addition to self-assessment questions. Finally, the learning management system Elenra will be available in 2021 and will enhance curricular mapping and assessments through all 3 Phases. Three IT staff were added to work with Medical Education to manage and continuously update the student portfolios.

During Phase 2, no additional IT support will be required. All clinical sites utilize electronic health records and have high-speed Internet to which all students have access. Each of the hospital sites offers access to computers with Internet access and online educational resources. University of Miami students on clinical rotations have access to all Calder Medical Library electronic resources. Each of the hospital sites offers access to on-site medical libraries, which can also be used by students as study space. Both guest and secure wireless networks are available throughout the Medical Campus in public spaces as well as classrooms, labs, offices, lounges, and clinical spaces. Faculty and students at the Miller School are supported by several existing IT staff members who are not shared with another school or college. These Medical Education IT staff address specific educational needs such as recording lectures, running servers that support medical education functions, updating classroom technology, and creating new online educational materials. In addition to their normal duties, this group works with faculty to explore new technologies, services, and pedagogical techniques that can enrich the medical education experience. The Medical Education IT staff are connected to the larger University of Miami IT department so they can leverage the staffing and specialized skills of the broader IT organization for needs such as server security, desktop support, instructional design, learning space design, and network connectivity.

## Other Resources Available or Needed to Support the Program

To provide the appropriate support for each faculty member to focus on the educational mission, faculty compensation in NextGenMD has moved from our historic educational relative value unit (eRVU) model to a full-time equivalent (FTE) model of protecting faculty's time.

- Phase 1 is broken down into two parts; the mornings are dedicated to the delivery of the traditional science content while the afternoons focus on the themes of Medicine as a Profession (including Clinical Skills and the Early Clinical Experiences) and Scholarly Concentration.
  - For the mornings, there are facilitators for the case-based learning sessions that occur for several hours per week; these faculty have support for this effort. There are other ad hoc faculty who participate in specific cases based on the content area that aligns with their specialty.
  - Overseeing the content are 2 groups of faculty: Domain Directors and Discipline Directors.
    - Domain Directors oversee several weeks of Phase 1 content clustered based on symptom complex. Across the 42 weeks of Phase 1 content, there are 11 Domain Directors each with about 0.2 FTE of protection.
    - Discipline Directors focus on Phase 1 but, unlike the Domain Directors, have a longitudinal role across all 3 Phases of NextGenMD. There are 9 Discipline Directors from the laboratory sciences (Anatomy & Cell Biology, Physiology, Biochemistry and Molecular Biology, Microbiology/Immunology, Pharmacology) and clinical sciences (Genetics, Radiology, Pathology, Oncology), these faculty are supported 0.3 FTE to ensure the appropriate delivery of their content expertise across all 3 Phases of the curriculum.
- NextGenMD has changed our current definition of an educator, with a greater emphasis on longitudinal mentoring than before. A cohort of 24 Longitudinal Clinical Educators (LCEs) serve as longitudinal mentors. These educators have varied roles described below.
- Much of the theme of Medicine as a Profession is delivered through the Miller School's existing Academic Societies model, where the medical students are broken up into 12 academic societies at Orientation with much of the peer mentoring occurring in this context with the help of faculty mentors. In NextGenMD, the faculty mentorship is a school-supported role, in which two LCEs are assigned to each society with 0.25 FTE supported for this function (increased to 0.375 FTE starting with the third year of NextGenMD).

- Each LCE has 8 assigned students per year (half of each Academic Society) and serves in various related capacities including mentor, advisor, coach, clinical skills preceptor, and learning community facilitator.
- LCEs provide competency assessments of learners.
- Importantly, the current structure of specialty- and research-specific mentors remains in place, with the LCEs referring students to these specialists.
- Emphasizing the importance of administrative involvement in this structure, each of the 12 Societies has a third faculty mentor who is part of the central administration of Medical Education (e.g. medical education deans in curriculum and student affairs, deans in other areas outside of undergraduate medical education, and leaders of the Department of Medical Education and the Academy of Educators). These third mentors per Society serve as a backup for student sessions that need to be covered and are involved with the social aspect of the Societies.
- Medicine as a Profession also includes the Early Clinical Experiences in Phase 1. Students work with local community preceptors across various specialties, focusing in part on history taking, physical examination, and communication skills but also getting real-world exposure to health systems science, the social determinants of health, and the business of medicine. Close coordination with the medical school's Alumni Association has allowed the NextGenMD curriculum to engage with a large pool of local physicians who are interested in working with medical students in their practices. In the last section of the Early Clinical Experiences, students get an EMT Lite experience that highlights interprofessional education in preparation for the clerkship year.
- EMTs and paramedics teach 6 skills sessions covering most of the basics of EMT training, and coupled with that are 6 ride-alongs with local paramedics and fire fighters. This experience is made possible by the strong existing relationship between the Gordon Center for Research in Medical Education, which provides training for many of the first responder personnel in South Florida, and local firefighter, paramedic, and EMT units. The Phase 1 Early Clinical Experiences are currently on hold due to the COVID-19 pandemic.
- The Scholarly Concentration theme is overseen by a faculty member supported for that role. Students in dual/joint degree programs have degree-specific oversight co-managed by the relevant Department/School providing the second degree. Students accelerating early into residency work with that Pathway Director and central medical education administration for appropriate oversight. For the remainder of students who elect a Pathway of Emphasis, 25 Pathway Directors are supported at 0.1 FTE (increased to 0.2 FTE in the second year of NextGenMD then 0.3 FTE thereafter) to provide oversight of the students' scholarly endeavors as well as to provide the appropriate assessments relevant to each Pathway.
- Phase 2 is overseen by 4 Integrated Clerkship Directors; each of those directors have specialty-specific co-directors also supported for this effort. This is an inter-departmental collaboration, as the Integrated Clerkship Directors oversee students across multiple clinical departments. The Discipline Directors described in Phase 1 will continue to ensure appropriate content delivery of their respective themes in Phase 2, and the LCEs and Pathway Directors (and Dual/Joint Degree Directors) will also continue to oversee students in Phase 2.
- Phase 3 is individualized based on a student's scholarly concentration and specialty interest. There is a menu of robust Selectives that are overseen by Selective Directors supported for this effort with guidance from the Discipline Directors noted above, in addition to a larger menu of Electives. Here, as in Phases 1 and 2, the Society faculty and Scholarly Concentration faculty will continue to oversee students.
- Given the complexity of the student assessment portfolio, there is a Director of Assessment and Entrustment across all 3 Phases overseeing a Learner Assessment Committee.

With these global changes in faculty structure and roles, faculty development is a critical for success. The Senior Associate Dean for Faculty Affairs has held many faculty development sessions with all of the above educators and has worked with the new Department of Medical Education to ensure an appropriate emphasis on developing faculty to be able to teach and facilitate in the NextGenMD curriculum.

## Curriculum

### Program Curriculum

The changes took effect in Fall 2020 for new students only. Upperclass students have continued to follow the Legacy curriculum through graduation. For this reason, we will continue to offer existing courses. The new curriculum involves changes in structure and pedagogy while also optimizing what content is delivered. Refer to each integrated clinical clerkship syllabus for course description, core topics, analytic and procedures skills, learning objectives, grading rubrics, clerkship directors and clerkship administration.

## Administration

### Program Administration

There are no changes to the current leadership structure of the program. The Dean is the Chief Academic Officer. The Executive Dean for Education oversees the curriculum deans.

## Documents

### Attach Supporting Documentation

MD Attachments.pdf

## For Administrative Use Only

**Plan Code**

MDDR\_MD

**CIP Code - Admin**

51.1201

**Degree Code**

MD

**Admin Degree Type**

Single Degree

**Print on Transcript**

Yes

**Admission Recruitment**

No

**Reviewer Comments**

**Patty Murphy (pxm491) (Fri, 30 Oct 2020 11:22:11 GMT):** This additional information does not involve anything that would require notification to or approval from SACSCOC.

Key: 454



## **MD and MD/MPH Program**

### **Course: Peds/OBG Integrated Clerkship**

**Course Length: 12 weeks**

**Course Credits: 12**

### **Syllabus 2021**

The educational mission of the University of Miami Miller School of Medicine is to graduate physicians with the ability and commitment to improve the health of all populations through their leadership in patient care, research, education, and the community.

#### ***Course Description***

The Integrated Pediatrics and OBG Clerkship includes the disciplines of Pediatrics and Obstetrics and Gynecology. This clerkship includes elements of Radiology, Pathology, and Genetics. Each student will spend time in each of these disciplines and will follow patients across disciplines when possible. Didactic sessions will be provided for each of the disciplines and will include conferences that are interprofessional in nature.

The University of Miami Miller School of Medicine places a priority on active, collaborative, learner-centered methodologies to prioritize the knowledge, skills and attitudes required of physicians to practice in today's health care system. The clerkship experiences will allow students to follow their patients through their care and treatment and participate in the medical, surgical, diagnostic and therapeutic aspects of the care required for management of acute and chronic illnesses.

Clinical experiences are designed to emphasize interprofessional, team-based, complex disease management with a major focus on continuity care, health maintenance, and disease prevention. The clinical clerkships will strive to not only integrate the basic and clinical sciences, but also the behavioral and social sciences with continued emphasis on the Institutional Objectives of the Educational Program.

## Course Objectives

### Discipline: Pediatrics

By the completion of the clerkship, the student will:

1. List and describe the approach to caring for children in the following categories:
  - a. Acute Ill Child
    - i. Fluids: calculate intravenous or oral maintenance fluids for a child, calculate IV fluid orders for a child requiring acute fluid resuscitation
    - ii. Therapeutic
    - iii. Common Acute Illness in Children
    - iv. Pediatric Emergencies Sepsis, shock, resp distress/failure, AMS, status epilepticus, acute abdomen, trauma, maltreatment
    - v. Newborn Care: jaundice, respiratory distress, serious bacterial infection (sepsis, meningitis, bacteremia, UTI), shock, poor feeding
  - b. Chronically Ill Child
    - i. Impact on growth and nutrition of common pediatric chronic medical conditions
    - ii. Describe how chronic illness can influence a child's growth and development, educational achievement, and psychosocial functioning
    - iii. Therapeutics and management strategies
  - c. Well Child
    - i. Growth and nutrition: age appropriate feeding for the newborn, toddler, school aged child, and adolescent
    - ii. Interpretation of growth patterns and growth charts
    - iii. Describe major developmental domains and how to identify domains
    - iv. Describe range of typical behavior anxiety, depression, ADHD, autism, and concerns for self-harm
    - v. Adolescent: describe the unique features of the physician-patient relationship during adolescence
    - vi. Prevention: describe age based preventive care and anticipatory guidance
      1. Screening tools in assessment of growth, development, behavior, social determinants of health, and family violence
      2. Growth and nutrition: age appropriate feeding for the newborn, toddler, school aged child, and adolescent
      3. Describe advantages of breastfeeding and describe common difficulties experienced by breastfeeding mothers
2. Perform a complete and accurate pediatric history, by age and developmental stage, including (as appropriate) identifying data, chief complaint, history of present illness, past medical history (prenatal history, birth history, neonatal history (when applicable)), surgical history, feeding/nutritional history, medications, allergies, family history, social history, and review of systems appropriate to the age of the patient and to the clinical setting.
3. Perform a complete, age appropriate physical examination for the newborn, infant, toddler, school aged child and adolescent, and differentiate between normal and abnormal physical exam findings.
4. Deliver accurate and pertinent oral presentations to the healthcare team.
5. Prepare and maintain comprehensive and timely medical documentation of the evaluation and care of the patient.
6. Identify and prioritize patient's problems and formulate appropriate differential diagnoses supported by the data presented, discriminating between likely and unlikely causes.

7. Interpret and list the indications for commonly ordered tests used in the evaluation of patients in both the inpatient and outpatient settings.
8. Provide age appropriate anticipatory guidance. Describe guidelines for health maintenance and injury and disease prevention in children.
9. Demonstrate the ability to utilize the medical literature to develop an evidence-based diagnostic and therapeutic plan.
10. Recognize personal limitations in knowledge, skills, and attitudes, be receptive to feedback, and be willing to improve these deficiencies.
11. Demonstrate initiative to learn by asking questions and participating in discussions during rounds and small group didactic sessions.
12. Demonstrate discipline in self-directed learning by independently researching topics and presenting this information to the team.
13. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues.
14. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming.
15. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse patient population.
16. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers.
17. Collaborate effectively with colleagues and other healthcare personnel in the care of their patients.

## Discipline: Obstetrics and Gynecology

### **Institutional Objectives of the Educational Program**

#### ***•Obstetrics & Gynecology Clerkship Specific Learning Objectives***

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After completing the educational program for the MD degree, our graduates will demonstrate:

1. **Biomedical and behavioral science knowledge** appropriate for the practice of clinical medicine by all physicians.
  - a. List the common features of the following diagnoses:
    - i. Abnormal pap
    - ii. 1<sup>st</sup> trimester bleeding
    - iii. Pelvic pain
    - iv. Infertility
    - v. Abnormal uterine bleeding
    - vi. Sexually transmitted infections
    - vii. Menopause
    - viii. Breast mass
    - ix. Pre-eclampsia
  - b. Differentiate between normal and high-risk conditions in pregnancy based on history, examination and laboratory studies and recognize the appropriate clinical care steps to follow.
  - c. Describe the basic concepts of fetal-placental function and major physiological changes in pregnancy.
2. **Clinical skills proficiency**, including eliciting medical history, performing a complete physical

exam, oral presentation and written documentation of patient cases, and basic technical procedures.

- a. Obtain an accurate medical history and physical examination appropriate to the clinical setting.
- b. Deliver accurate and pertinent oral presentations to the healthcare team.
- c. Perform a breast exam and a pelvic exam including a review of the external genitalia, speculum exam, collection of PAP smears and cultures.
- d. Describe the three stages of labor, the management of normal vaginal delivery, and perform a vaginal delivery on a birthing simulator.
- e. Observe a vaginal delivery and a Cesarean section.

3. **Application of knowledge and skills** to clinical decision-making and the practice of medicine, including formulating differential diagnoses, and a diagnostic and therapeutic plan.

- a. Identify and prioritize common gynecologic and obstetric problems and formulate appropriate differential diagnoses supported by the data presented, discriminating between likely and unlikely causes.
- b. Interpret and list the indications for commonly ordered tests used in the evaluation of patients in both the inpatient and outpatient settings.
- c. Formulate an appropriate plan for diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- d. Recognize the conditions that require the performance of a Cesarean section and describe the procedural approach.

4. **Preventive medicine and population health knowledge and skills**, including the ability to identify persons/populations at risk for common and important health problems and to apply appropriate preventive measures, including screening, health education, and other forms of risk reduction.
  - a. Identify patients and populations at risk for common and important gynecologic problems and list the age-appropriate cancer screening guidelines.
  - b. Provide health care services and patient education to patients aimed at preventing gynecologic problems, including the components of an annual well woman exam.
  - c. List the components of routine antepartum and postpartum care.
  - d. Identify mechanisms of action, efficacy, benefits and risks of available contraceptive methods and apply to the counseling of patients.
  
5. **Critical assessment of biomedical literature** and evidence-based management of health problems.
  - a. Demonstrate the ability to use evidence-based resources for clinical decision-making in OB/GYN and learn the importance of evidence-based medicine in the delivery of high quality care to women.
  - b. Review evidence based resources to answer a clinical question encountered during the clerkship.
  
6. **Self-directed, life-long learning skills**, including the recognition of personal educational needs, use of appropriate learning resources and evaluation of progress.
  - a. Demonstrate self-directed learning by reading about their patient's disease processes and presenting this information to the team.
  - b. Recognize personal limitations in knowledge, skills, and attitudes, be receptive to feedback, and be willing to improve these deficiencies.
  
7. **Professionalism**, including the demonstration of responsibility, empathy, reflective practice, cultural humility and adherence to ethical principles.
  - a. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues.
  - b. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming.
  - c. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse



patient population.

8. **Communication skills** with patients, families, colleagues, and healthcare personnel.
  - a. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers.
  
9. **Interprofessional skills** as a collaborative member of the healthcare team.
  - a. Collaborate effectively with colleagues and other healthcare personnel in the care of their patients
  - b. Recognize the importance of teamwork in the obstetrical setting.
  
10. **Understanding of the role and responsibility of a physician as a leader** in the healthcare delivery system and in society.

**Discipline: Radiology, Pathology, Genetics?**

***Institutional Objectives of the Educational Program***

After completing the educational program for the MD degree, our graduates will demonstrate:

1. **Biomedical and behavioral science knowledge** appropriate for the practice of clinical medicine by all physicians
2. **Clinical skills proficiency**, including eliciting medical history, performing a complete physical exam, oral presentation and written documentation of patient cases, and basic technical procedures
3. **Application of knowledge and skills** to clinical decision-making and the practice of medicine, including formulating differential diagnoses, and a diagnostic and therapeutic plan
4. **Preventive medicine and population health knowledge and skills**, including the ability to identify persons/populations at risk for common and important health problems and to apply appropriate preventive measures, including screening, health education, and other forms of risk reduction.
5. **Critical assessment of biomedical literature** and evidence-based management of health problems
6. **Self-directed, life-long learning skills**, including the recognition of personal educational needs, use of appropriate learning resources and evaluation of progress

7. **Professionalism**, including the demonstration of responsibility, empathy, reflective practice, cultural humility and adherence to ethical principles
8. **Communication skills** with patients, families, colleagues, and healthcare personnel
9. **Interprofessional skills** as a collaborative member of the healthcare team
10. **Understanding of the role and responsibility of a physician as a leader** in the healthcare delivery system and in society.

After completing the educational program for the MD/MPH dual degree, our graduates will also demonstrate:

11. An understanding of the integration between public health and medicine, identify and engage community partners in public health initiatives, and serve as leaders in the public health sector.

The **Peds/OBG Integrated Clerkship** course supports **all** of the above the institutional educational objectives.

## ***Course Administration***

**Course Directors:** Patricia Alvarez, Julie Belkowitz, Jorge Garcia, Karla Maguire, Dervi and Selva Ganesh, Stephen Livingston

**Course Support:** Merida Pelier, Tameka Collins, Margarita Rodriguez

## ***Assignments***

### **Assignment 1**

TBA

### **Assignment 2**

TBA

### **Assignment 3**

TBA

### **Assignment 4**

TBA

### **Assignment 5**

TBA

**Grading**

Performance in all aspects of the clerkship will be monitored. A single grade will be recorded for the **Peds/OBG Integrated Clerkship** :

**Pediatrics: 50% of the grade, of which**

Clinical Performance Evaluation by Faculty Preceptors	30
NBME Subject Examination in Medicine	20
OSCE Examination	25
Small Group Learning Session Preparation and Performance	10
Written case write-up (HP)	5
Aquifer Case Completion	5
Coordinator Points	5

**OB/Gyn: 50% of the grade, of which**

Clinical Evaluations	25%
NBME Shelf	25%
OSCE/Oral Exam	15%
Ethics Assignment	10%
Weekly Quizzes	10%
Case Write Up	5%
Critical Appraisal	5%
Professionalism Points	5%

**Does radiology/genetics/pathology need grades**

**Honor Code:**

Everyone is expected to adhere strictly to the honor code. Any attempts at cheating or plagiarism will be considered a violation of the University honor code and a failing grade will be assigned for the course. In addition, all students involved will be referred to the University's Honor Council.

**Accommodations for Students with Disabilities**

Students with documented disabilities needing to request special accommodations for this course should contact the [Office of Disability Services](#) (Camner Academic Resource Center in the Whitten University Center N201 on the Coral Gables Campus. Phone: 305-284-2374). *Please refer to the [Graduate student handbook](#) regard other policies and procedures*



MILLER SCHOOL  
of MEDICINE

## **From ED to OR: Integrated Clerkship**

**NextGenMD Phase 2 Clerkship**

**Course Length - 11 weeks**

### **Faculty Leadership:**

#### ***Anesthesia:***

Christian "Chris" Diez, MD, MBA  
Jack Louro, MD

[cdiez@med.miami.edu](mailto:cdiez@med.miami.edu)  
[jlouro1@med.miami.edu](mailto:jlouro1@med.miami.edu)

#### ***Emergency Medicine:***

Jennifer Jackson, MD, FACEP

[j.jackson@med.miami.edu](mailto:j.jackson@med.miami.edu)

#### ***Surgery:***

Laurence "Larry" Sands, MD, MBA  
Chad Thorson, MD

[lsands@med.miami.edu](mailto:lsands@med.miami.edu)  
[cthorson@med.miami.edu](mailto:cthorson@med.miami.edu)

The NextGen integrated clerkship, From ED to OR, will give the Phase 2 medical student the opportunity to actively expand their knowledge across emergency medicine, anesthesia and surgery disciplines, develop technical, procedural and clinical skills and initiate collaborative relationships with patients, residents, faculty and staff across the interdisciplinary continuum of the adult and pediatrics emergency departments, trauma resuscitation, operating room, outpatient clinic and inpatient wards. Below are the discipline course descriptions, learning objectives, student expectations and learning outcomes.

### **EM Discipline Description:**

The Emergency Department creates an unique opportunity for medical students to acquire a foundation of knowledge and skills to care for patients with emergency medical conditions. We believe that every physician should possess adequate assessment and management skills to rapidly identify life-threatening conditions, to initiate care, demonstrate procedural proficiency and

to know whom and when to call for assistance, regardless of their ultimate medical specialty and training. The Emergency Department is also one of the few practice sites where students play an integral role in the initial evaluation of an “undifferentiated” patient – where the diagnosis is completely unknown on initial contact. The medical students are expected to be an involved, engaged and active member of the ED team, providing ED patient care and communicating with families.

### **Anesthesia Discipline Description:**

The medical student rotation in the Department of Anesthesiology, Perioperative Medicine and Pain Management is designed to provide medical students with insights into the specialty of general anesthesiology, its subspecialties and the importance of the anesthesiologist in caring for patients prior to surgery, during surgery and the postoperative period. We will educate medical students on the multi-faceted role anesthesiologists play as perioperative physicians, intensivists and pain medicine specialists and how anesthesiologists apply their diagnostic skills and problem-solving abilities in these arenas will be demonstrated. At the same time, we will teach students to perform technical procedures appropriate to their level of training. Whenever feasible, we will promote participation in research so that students may explore a topic in depth as well as develop skills in critical thinking.

During the Anesthesia rotation, students will become familiar with the many facets of the practice of anesthesiology including the perioperative setting, pre-anesthetic evaluation, induction and maintenance of anesthesia during surgery, patient emergence from anesthesia and post anesthesia care. It is expected that the medical student will develop an information base allowing them to identify and manage common preoperative concerns. We aim to develop recognition of the importance of patient safety; understand pharmacological dosing, complications related to various anesthetic techniques; understand basic ACLS and understand the management of regional anesthetics. The clerkship offers a unique opportunity for medical students to gain valuable experience and knowledge of the operating room setting within an academic institution. You will be exposed to the daily challenges faced by anesthesiologists.

### **Surgery Discipline Description:**

The main purpose of the Surgery rotation is to provide the medical student with the resources and knowledge to recognize surgical disease. Career choices available to the medical student today in terms of medical discipline and specialty are quite varied. However, surgical disease is something that needs to be recognized and identified by all physicians. Every clinician needs to understand when patients have surgical problems and need to be referred to a surgeon. Doctors also need to understand proper screening tools available to prevent surgical problems and the appropriate times to order these studies.

The purpose of the Surgery rotation is not to produce a “junior surgeon”. The main goal of this clinical rotation is to introduce the junior student to the world of general surgery and to show students that surgeons play an important role in the management of patients amongst all

disciplines in medicine. In addition, students will see that surgery is an exciting field especially with all of the technological advances of the 21<sup>st</sup> century.

The Surgery rotation will introduce students to a wide spectrum of surgical diseases. By following patients through their initial presentation to the operating room, their perioperative and post-operative care, students will be able to observe the evolution and resolution of surgical disease processes. Teaching in the operating room and at the bedside, in particular, brings students and patients together for their mutual benefit.

**Course Objectives:**

***Discipline: Emergency Medicine***

1. Demonstrate proficient knowledge to provide care to adult and pediatrics patients with emergency medical conditions (IEO 1)
2. Perform an accurate and appropriately focused history and examination of a patient with an emergency medical condition (IEO 2)
3. Deliver accurate, pertinent, and succinct oral presentations to the healthcare team (IEO 2)
4. Prepare a pertinent medical documentation of the evaluation and care of a patient (IEO 2)
5. Perform procedures listed in the procedure log (IEO 2)
6. Complete the initial patient evaluation in a time efficient manner (IEO 3)
7. Identify an organized diagnostic approach to the evaluation of patients with “undifferentiated” complaints (diagnosis not yet known) (IEO 3)
8. Outline an appropriate differential diagnosis for patients with common emergency conditions. (IEO 3)
9. Recognize and prioritize the emergency needs of an acutely ill or injured patient and begin initial management (IEO 3)
10. Identify appropriate disposition of patient (admission or discharge) as early as possible (IEO 3)
11. Identify risk factors and provide health education at the time of discharge (IEO 4)
12. Review evidence based resources to answer a clinical question encountered during the clerkship for oral presentation to students and faculty (IEO 5)
13. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues (IEO 7)
14. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming (IEO 7)
15. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse patient population in the emergency department setting (IEO 7)
16. Recognize the importance of managing ethical and medico-legal dilemmas in the emergency department setting (IEO 7)



17. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers (IEO 8)
18. Counsel and educate patients and their families regarding their plan of care (IEO 8)
19. Facilitate the learning of other students within the small group discussions (IEO 8)
20. Collaborate effectively with colleagues and other healthcare personnel in the care of their patients (IEO 9)
21. Demonstrate the ability to function as a patient care team leader in the emergency department setting (IEO 10)

**Course Objectives:**

***Discipline: Anesthesiology***

1. List appropriate preoperative testing for a low-risk patient in anticipation of either major or minor surgery
2. Describe the pharmacokinetics and pharmacodynamics of intravenous and inhalational agents
3. List the indications for regional anesthesia and describe the different types of regional techniques
4. Describe the process of induction of anesthesia in healthy and ill patients.
5. Describe the management of anesthesia for the patient with cardiovascular disease.
6. Perform placement an intravenous line and management of the airway of an anesthetized patient
7. Describe the fundamentals and basic principles of invasive monitoring and mechanical ventilation.
8. Describe the different equipment used for airway management, the components of an airway evaluation, and the steps of a standard intubation
9. Describe the different methods of pain management in the surgical patient
10. Demonstrate the ability to utilize the guidelines to formulate an anesthetic plan
11. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image
12. Demonstrate an ability to present a clear, organized, and concise case presentation.
13. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers
14. Recognize the importance of interdisciplinary collaboration in optimizing clinical outcomes for patients and work effectively with other health professionals

**Course Objectives:**

***Discipline: Surgery***

1. Recognize the clinical presentation, pathophysiology, differential diagnoses, diagnostic testing, and medical and surgical management of commonly-encountered surgically related diseases (IEO 1)
2. Discuss preoperative risk stratification and list strategies for optimizing perioperative care. (IEO 1)

3. Discuss common postoperative complications and postoperative monitoring of the surgical patient. (IEO 1)
4. Obtain an accurate medical history and physical examination appropriate to the clinical setting (IEO 2)
5. Deliver accurate and pertinent oral presentations to the healthcare team (IEO 2)
6. Demonstrate proficiency in writing an appropriate note with the patient's history, physical examination, assessment, and plan for the surgical patient. (IEO 2)
7. Demonstrate Proficiency in performing basic bedside surgical procedures (IEO 2)
8. Obtain key data from the history and physical exam, interpret common radiological and laboratory data, identify problems and develop differential diagnoses, and formulate appropriate diagnostic and management plans. (IEO 3)
9. Describe how surgical decision making is done, including the timing and need for an operation. (IEO 3)
10. Demonstrate the ability to evaluate the scientific evidence and incorporate this knowledge in the care they deliver to surgical patients. (IEO 5)
11. Recognize personal limitations in knowledge, skills, and attitudes, be receptive to feedback, and be willing to improve these deficiencies. (IEO 6)
12. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues. (IEO 7)
13. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming (IEO 7)
14. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming (IEO 7)
15. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers. (IEO 8)

### **From ED to OR Clerkship Student Expectations and Learning Outcomes**

- The students will be responsible for eliciting thorough and pertinent patient histories.
- The students will conduct complete physical exams.
- The students will be responsible for writing notes in the EMR including history and physicals (H & P's), daily progress notes, operative notes and postoperative checks. In addition, students will develop a daily plan for each patient followed.
- The students will follow daily laboratory and radiologic data and learn to interpret this data.
- The students will learn to formulate a differential diagnosis and a treatment plan.
- Based on their patient assessments, students will be expected to deliver appropriate oral patient presentations with pertinent findings, differential diagnoses and management plans.

- Students will be taught emergency, surgical and preoperative/postoperative anesthesia decision making, integrating clinical decision rules and evidence based medicine and be able to communicate this to the healthcare team, patients and families (patient education and informed consent).
- The students will learn about common emergency medical conditions, pain management, preoperative/intraoperative/postoperative principles and surgical problems.
- Students will learn basic surgical skills and basic emergency procedures
- Students will be able to manage a cardiac arrest (BLS and ACLS) and airway management.
- Students will be taught operative technique, procedural skills, anatomy, pathology and physiology relevant to the emergency medicine, anesthesia and surgery disciplines.
- Students will demonstrate professional behavior (honesty, responsibility, respect to patients and colleagues, commitment and enthusiasm towards learning).
- Students will learn how to communicate information to patients and family members.
- Students will learn how to obtain proper informed consent

**Grading:**

Clinical Evaluations	40%
Shelf Examinations	25%
Simulation/Procedural Skills	15%
OSCE's	10%
Patient writeups/online modules	10%



## **MD and MD/MPH Program**

**Course: Practice of Medicine (POM)**

**Course Length: 12 weeks**

**Course Credits: 12**

**Syllabus 2021**

**The educational mission of the University of Miami Miller School of Medicine is to graduate physicians with the ability and commitment to improve the health of all populations through their leadership in patient care, research, education, and the community.**

### ***Course Description***

The Practice of Medicine Clerkship includes the disciplines of internal medicine, geriatrics, palliative care/hospice medicine, and elements of radiology over the 12-week period. In a given week, each student will spend time in each of these disciplines and will follow patients across disciplines when possible. Didactic sessions will be provided for each of the disciplines and will include conferences that are interprofessional in nature.

The University of Miami Miller School of Medicine places a priority on active, collaborative, learner-centered methodologies to prioritize the knowledge, skills and attitudes required of physicians to practice in today's health care system. The clerkship experiences will allow students to follow their patients through their care and treatment and participate in the medical, surgical, diagnostic and therapeutic aspects of the care required for management of acute and chronic illnesses.

Clinical experiences are designed to emphasize interprofessional, team-based, complex disease management with a major focus on continuity care, health maintenance, and disease prevention. The clinical clerkships will strive to not only integrate the basic and clinical sciences, but also the behavioral and social sciences with continued emphasis on the Institutional Objectives of the Educational Program.

## ***Course Objectives***

### **Discipline: Internal Medicine**

By the completion of the clerkship, the student will:

1. List and describe the diagnostic criteria, epidemiology, natural history, pathophysiology, clinical presentation, physical findings, differential diagnosis, diagnostic testing, and management of the following commonly encountered medical problems: CORE TOPIC LIST (see below).
  - a. Myocardial ischemia
  - b. Congestive heart failure
  - c. Hypertension/Hypertensive emergencies
  - d. Pneumonia
  - e. Gastrointestinal bleeding
  - f. Hepatitis and Cirrhosis
  - g. COPD/Asthma
  - h. Renal failure
  - i. Venous thromboembolism
  - j. Anemia
  - k. Diabetes, diabetic ketoacidosis and hyperosmolar non-ketotic state
  - l. HIV/Opportunistic infections
  - m. Acute arthritis
  - n. SLE and Systemic Autoimmune Diseases
2. Interpret ECGs and identify common abnormalities.
3. Obtain an accurate medical history and physical examination appropriate to the clinical setting.
4. Deliver accurate and pertinent oral presentations to the healthcare team.
5. Prepare and maintain comprehensive and timely medical documentation of the evaluation and care of the patient.
6. Identify and prioritize patient's problems and formulate appropriate differential diagnoses supported by the data presented, discriminating between likely and unlikely causes.
7. Interpret and list the indications for commonly ordered tests used in the evaluation of patients in both the inpatient and outpatient settings.
8. Provide age appropriate patient education and health care services to patients aimed at preventing health problems or maintaining health.
9. Recognize and provide age-appropriate preventive services and protocols.
10. Demonstrate the ability to utilize the medical literature to develop an evidence-based diagnostic and therapeutic plan.
11. Recognize personal limitations in knowledge, skills, and attitudes, be receptive to feedback, and be willing to improve these deficiencies.
12. Demonstrate initiative to learn by asking questions and participating in discussions during rounds and small group didactic sessions.
13. Demonstrate discipline in self-directed learning by independently researching topics and presenting this information to the team.

### **Discipline: Internal Medicine (continued)**

14. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues.
15. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming.
16. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse patient population.
17. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers.
18. Describe the key strategies in delivering bad news to patients and their families.
19. Collaborate effectively with colleagues and other healthcare personnel in the care of their patients.

### **Discipline: Geriatrics and Palliative Care**

1. Describe and distinguish between the clinical presentation of common geriatric syndromes (e.g., dementia, depression, and delirium).
2. Explain the impact of age-related changes on drug selection and dose based on knowledge of age-related changes in renal and hepatic function, body composition, and Central Nervous System sensitivity.
3. Explain the function of different sites/levels of care and appropriate referral indications (e.g., long-term care, sub-acute care, assisted living, home care, hospice).
4. Define palliative and hospice care.
5. Perform a comprehensive geriatric or palliative care history and physical examination that includes an assessment of the non-medical domains of function (functional, psychological/spiritual, socio-economic).
6. Apply and interpret selected geriatric and palliative care assessment tools (e.g., Mini-Mental State Exam, Confusions Assessment Method, Geriatric Depression Scale, Palliative Performance Scale).
7. Document a patient's complete medication list, including prescribed, over-the-counter, and herbal medications, and for each medication provide the dose, frequency, indication, benefit, side effects, and assessment of adherence.
8. Utilize all available resources, including the patient, family members, the chart, and reports from other members of the healthcare team, to assess the patient status accurately and comprehensively.
9. Formulate a plan of care for a geriatric or palliative patient that integrates the medical and non-medical domains to maximize function and quality of life.
10. Identify medications, including anticholinergic, psychoactive, anticoagulant, analgesic, hypoglycemic, and cardiovascular drugs that should be avoided or used with caution in older adults and explain the potential problems associated with each.

## **Discipline: Geriatrics and Palliative Care (continued)**

11. Describe the common symptoms that occur at the end of life and appropriate management strategies.
12. Formulate a pain management plan (pharmacologic and non-pharmacologic) for patients with different levels and types of pain (WHO ladder).
13. Explain the basic principles of prescribing, titrating, and changing common opioid medications.
14. Perform a medication reconciliation applying appropriate deprescribing principles.
15. Develop a non-pharmacologic management plan for agitated dementia or delirium patients.
16. Identify potential hazards of hospitalization in older patients and identify potential prevention strategies.
17. Explain the risks, indications, alternatives, and contraindications for physical and pharmacological restraint use.
18. Formulate a clinical question for a geriatric or palliative care patient, critically assess the biomedical literature, and consider patient and system-specific factors when applying the literature findings back to the management of the patient.
19. Demonstrate initiative to learn by asking questions and actively participating in discussions during rounds and didactic sessions and independently researching topics.
20. Solicit feedback and show receptivity to feedback.
21. Identify personal learning gaps and actively seek out appropriate learning resources to fill these gaps.
22. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues.
23. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming.
24. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse patient population.
25. Describe common ethical issues in geriatric and palliative care and strategies for managing ethical conflicts.
26. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers.
27. Engage patients and their caregivers in making health care decisions that account for life expectancy, functional status, patient preferences and their goals of care.
28. Integrate the knowledge of other health care professionals in patient assessment and care planning.
29. Describe the key strategies in delivering bad news to patients and their families.
30. Explain the role of other health care providers on the interdisciplinary team caring for geriatric and palliative care patients and how the team works together to provide care.

**Discipline: Geriatrics and Palliative Care (continued)**

31. Discuss the benefit of involving the patient and/or family in the healthcare team's decision making.
32. Explain the roles of a geriatrician and palliative care physician and their value to the overall health care system (e.g., improved patient outcomes, reduced readmission rates, cost reductions).

**Discipline: Radiology**

1. Recognize the risks of different imaging modalities and the various contrast media to patients.
2. Demonstrate the ability to utilize basic radiologic terminology.
3. Describe the role of the ACR appropriateness criteria in ordering radiologic exams.
4. Identify and distinguish between normal and abnormal findings in a variety of imaging modalities.
5. Recognize emergent radiograph findings in plain film (e.g. pneumothorax, pneumoperitoneum, malpositioned lines, bowel obstruction).
6. Formulate appropriate differential diagnoses using available clinical and past imaging history, discriminating between likely and unlikely causes.
7. Present and analyze a case, recommend appropriate imaging studies, provide a diagnosis in a clear and time efficient manner.
8. Appreciate the importance of effective communication with referring physicians and technical personnel.
9. Understand the role of the radiologist in patient care.



### ***Institutional Objectives of the Educational Program***

After completing the educational program for the MD degree, our graduates will demonstrate:

1. **Biomedical and behavioral science knowledge** appropriate for the practice of clinical medicine by all physicians
2. **Clinical skills proficiency**, including eliciting medical history, performing a complete physical exam, oral presentation and written documentation of patient cases, and basic technical procedures
3. **Application of knowledge and skills** to clinical decision-making and the practice of medicine, including formulating differential diagnoses, and a diagnostic and therapeutic plan
4. **Preventive medicine and population health knowledge and skills**, including the ability to identify persons/populations at risk for common and important health problems and to apply appropriate preventive measures, including screening, health education, and other forms of risk reduction.
5. **Critical assessment of biomedical literature** and evidence-based management of health problems
6. **Self-directed, life-long learning skills**, including the recognition of personal educational needs, use of appropriate learning resources and evaluation of progress
7. **Professionalism**, including the demonstration of responsibility, empathy, reflective practice, cultural humility and adherence to ethical principles
8. **Communication skills** with patients, families, colleagues, and healthcare personnel
9. **Interprofessional skills** as a collaborative member of the healthcare team
10. **Understanding of the role and responsibility of a physician as a leader** in the healthcare delivery system and in society.

After completing the educational program for the MD/MPH dual degree, our graduates will also demonstrate:

11. An understanding of the integration between public health and medicine, identify and engage community partners in public health initiatives, and serve as leaders in the public health sector.

The POM course supports **all** of the above the institutional educational objectives.

***Course Administration***

**Course Directors:**

TBA

**Course Support:**

TBA

***Assignments***

**Assignment 1**

TBA

**Assignment 2**

TBA

**Assignment 3**

TBA

**Assignment 4**

TBA

**Assignment 5**

TBA

## **Grading**

Performance in all aspects of the clerkship will be monitored. A single grade will be recorded for the Practice of Medicine Clerkship:

### **Medicine: 70% of the grade, of which**

Clinical Performance Evaluation by Faculty Preceptors	30
NBME Subject Examination in Medicine	20
OSCE Examination	25
Standardized Patient Evaluation	7.5
Written Case Write-Up	7.5
Oral Case Presentation	10
Small Group Learning Session Preparation and Performance	5
Clinical Reasoning and Communication (Formative OSCE Exams)	5
Written case write-up	5
EKG Exam	5
Coordinator Points	5

### **Geriatrics: 10% of the grade, of which**

Geriatrics Quiz	30
Choosing Wisely Presentation	30
Written Case Report (Comprehensive Geriatric Assessment)	25
Patient Narrative Essay	10
Aquifer Geriatrics Case Completion	5

### **Palliative Care: 10% of the grade, of which**

Questionnaire/Pretest	0
Post Test	90
Professionalism/Hospice Attendance	10

### **Radiology: 10% of the grade, of which**

Case Report: Powerpoint Presentation	35
Final Exam	35
Participation with attendings (50%), patient logs (25%), Aquifer cases (25%)	25
Attendance & Participation	5

**Honor Code:**

Everyone is expected to adhere strictly to the honor code. Any attempts at cheating or plagiarism will be considered a violation of the University honor code and a failing grade will be assigned for the course. In addition, all students involved will be referred to the University's Honor Council.

**Accommodations for Students with Disabilities**

Students with documented disabilities needing to request special accommodations for this course should contact the [Office of Disability Services](#) (Camner Academic Resource Center in the Whitten University Center N201 on the Coral Gables Campus. Phone: 305-284-2374).

*Please refer to the [Graduate student handbook](#) regard other policies and procedures*



## **MD and MD/MPH Program**

**Course: MIND, MATTER AND MEDICINE**

**Course Length: 12 weeks**

**Course Credits: 12**

**Syllabus 2021**

**The educational mission of the University of Miami Miller School of Medicine is to graduate physicians with the ability and commitment to improve the health of all populations through their leadership in patient care, research, education, and the community.**

### ***Course Description***

The Mind, Matter and Medicine clerkship includes the disciplines of family medicine, psychiatry and neurology along with elements of radiology, pathology, oncology, basic science and genetics over the 12-week period. In a given week, each student will spend time in each of these disciplines and will follow patients across disciplines when possible. Didactic sessions will be provided for each of the disciplines and will include conferences that are interprofessional in nature.

The University of Miami Miller School of Medicine places a priority on active, collaborative, learner-centered methodologies to prioritize the knowledge, skills and attitudes required of physicians to practice in today's health care system. The clerkship experiences will allow students to follow their patients through their care and treatment and participate in the medical, surgical, diagnostic and therapeutic aspects of the care required for management of acute and chronic illnesses.

Clinical experiences are designed to emphasize interprofessional, team-based, complex disease management with a major focus on continuity care, health maintenance, and disease prevention. The clinical clerkships will strive to not only integrate the basic and clinical sciences, but also the behavioral and social sciences with continued emphasis on the Institutional Objectives of the Educational Program.

## ***Course Objectives***

### **Discipline: Neurology-Psychiatry-Family Medicine**

By the completion of the clerkship, the student will:

1. List and describe the diagnostic criteria, epidemiology, natural history, pathophysiology, clinical presentation, physical findings, differential diagnosis, diagnostic testing, and management of the following commonly encountered medical problems:

#### **CORE TOPIC LIST: NEUROLOGY**

- a. Acute Stroke and TIA
- b. Status Epilepticus
- c. CNS Infection
- d. Toxic-metabolic encephalopathy and coma
- e. Guillain-Barre syndrome
- f. Spinal cord compression
- g. Intracranial Hypertension and Herniation
- h. Head trauma
- i. Subarachnoid Hemorrhage
- j. Neuromuscular respiratory failure
- k. Epilepsy
- l. Dementia
- m. Movement Disorders
- n. Sleep Disorders
- o. Polyneuropathy/Carpal Tunnel Syndrome
- p. Radiculopathies
- q. Dizziness
- r. Multiple Sclerosis/Demyelinating Diseases
- s. Headaches
- t. Neuropathic Pain

#### **CORE TOPIC LIST: PSYCHIATRY**

- a. Psychiatric Emergencies
  1. Neuroleptic Malignant Syndrome
  2. Serotonin Syndrome
  3. Anticholinergic Syndrome
  4. Delirium
  5. Suicide
  6. Withdrawals and Intoxication from Substances
- b. Depressive Disorders
- c. Bipolar Disorders
- d. Schizophrenia and other psychotic disorders
- e. Anxiety Disorders
- f. Obsessive Compulsive Disorders

- g. Trauma Related Disorders
- h. Substance Use Disorders
- i. Personality Disorders
- j. Somatic Symptom Disorders
- k. Eating Disorders
- l. Child and Adolescent Psychiatry Conditions
- m. Neurodevelopmental disorders
- n. Disruptive, Impulse Control and Conduct Disorders
- o. Elimination Disorders
- p. Geriatric Psychiatric Conditions

#### CORE TOPIC LIST: FAMILY MEDICINE

- a. The Complex Patient
- b. DM2 in the Outpatient Setting
- c. Smoking Prevention and Smoking Cessation
- d. Cultural Awareness
- e. Women's Health Across the Lifespan
- f. Vaginitis / Cervicitis and STDs
- g. Contraception
- h. Infertility
- i. Menopause
- j. Domestic abuse
- k. Derm Rashes / Non-Pathologic Dermatology in the Primary Care Setting
- l. Treatments & Updates on Dermatological Malignancies in the Primary Care Setting
- m. Outpatient Management of Heart Failure
- n. Asthma
- o. COPD
- p. URI
- q. LRI
- r. OSA
- s. Allergic rhinitis
- t. Pain Management in Primary Care
- u. Musculoskeletal Workshop
- v. Osteoporosis
- w. Back pain
- x. OA
- y. RA
- z. HIV in Primary Care
- aa. Common "Mental Health" Problems & Discussion in the Primary Care Setting
- bb. Dementia
- cc. Depression
- dd. Seizures

2. Obtain an accurate medical history and physical examination appropriate to the clinical setting.
3. Deliver accurate and pertinent oral presentations to the healthcare team.
4. Prepare and maintain comprehensive and timely medical documentation of the evaluation and care of the patient.
5. Identify and prioritize patient's problems and formulate appropriate differential diagnoses supported by the data presented, discriminating between likely and unlikely causes.
6. Interpret and list the indications for commonly ordered tests used in the evaluation of patients in both the inpatient and outpatient settings.
7. Provide age appropriate patient education and health care services to patients aimed at preventing health problems or maintaining health.
8. Recognize and provide age-appropriate preventive services and protocols.
9. Demonstrate the ability to utilize the medical literature to develop an evidence-based diagnostic and therapeutic plan.
10. Recognize personal limitations in knowledge, skills, and attitudes, be receptive to feedback, and be willing to improve these deficiencies.
11. Demonstrate initiative to learn by asking questions and participating in discussions during rounds and small group didactic sessions.
12. Demonstrate discipline in self-directed learning by independently researching topics and presenting this information to the team.
13. Demonstrate the basic precepts of the medical profession including altruism, respect, compassion, honesty, integrity, and confidentiality in relationships and interactions with patients, families, and colleagues.
14. Demonstrate a commitment to carrying out professional responsibilities, acceptable attendance and punctuality, and a professional image in manner, dress, and grooming.
15. Demonstrate adherence to ethical principles, cultural humility, and sensitivity and respect to a diverse patient population.
16. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers.
17. Describe the key strategies in delivering bad news to patients and their families.
18. Collaborate effectively with colleagues and other healthcare personnel in the care of their patients.

### **Discipline: Radiology**

1. Recognize the risks of different imaging modalities and the various contrast media to patients.
2. Demonstrate the ability to utilize basic radiologic terminology.
3. Describe the role of the ACR appropriateness criteria in ordering radiologic exams.
4. Identify and distinguish between normal and abnormal findings in a variety of imaging modalities.
5. Recognize emergent radiograph findings.



6. Formulate appropriate differential diagnoses using available clinical and past imaging history, discriminating between likely and unlikely causes.
7. Present and analyze a case, recommend appropriate imaging studies, provide a diagnosis in a clear and time efficient manner.
8. Appreciate the importance of effective communication with referring physicians and technical personnel.

### ***Institutional Objectives of the Educational Program***

After completing the educational program for the MD degree, our graduates will demonstrate:

1. **Biomedical and behavioral science knowledge** appropriate for the practice of clinical medicine by all physicians
2. **Clinical skills proficiency**, including eliciting medical history, performing a complete physical exam, oral presentation and written documentation of patient cases, and basic technical procedures
3. **Application of knowledge and skills** to clinical decision-making and the practice of medicine, including formulating differential diagnoses, and a diagnostic and therapeutic plan
4. **Preventive medicine and population health knowledge and skills**, including the ability to identify persons/populations at risk for common and important health problems and to apply appropriate preventive measures, including screening, health education, and other forms of risk reduction.
5. **Critical assessment of biomedical literature** and evidence-based management of health problems
6. **Self-directed, life-long learning skills**, including the recognition of personal educational needs, use of appropriate learning resources and evaluation of progress
7. **Professionalism**, including the demonstration of responsibility, empathy, reflective practice, cultural humility and adherence to ethical principles
8. **Communication skills** with patients, families, colleagues, and healthcare personnel
9. **Interprofessional skills** as a collaborative member of the healthcare team
10. **Understanding of the role and responsibility of a physician as a leader** in the healthcare delivery system and in society.

After completing the educational program for the MD/MPH dual degree, our graduates will also demonstrate:

11. An understanding of the integration between public health and medicine, identify and engage community partners in public health initiatives, and serve as leaders in the public health sector.

The MMM integrated clerkship supports **all** of the above the institutional educational objectives.

## ***Course Administration***

### **Course Directors:**

Mousa Botros MD  
Marie Denise Gervais MD  
Yolanda Reyes-Iglesias MD

### **Course Support:**

Damianie Montero  
Gladys Cordero

## ***Assignments***

### **Assignment 1**

TBA

### **Assignment 2**

TBA

### **Assignment 3**

TBA

### **Assignment 4**

TBA

### **Assignment 5**

TBA

## **Grading**

Performance in all aspects of the clerkship will be monitored. A single grade will be recorded for the Mind, Matter and Medicine Integrated Clerkship:

### **Mind, Matter and Medicine: 90% of the grade, of which**

Psychiatry	30 %
Family Medicine	30 %
Neurology	30 %

### **Radiology, Genetics, Oncology and Basic Science: 10% of the grade**

**The students will take the Psychiatry and Neurology NBME Shelf exams at the end of the MMM integrated clerkship.**

**The students will take the Family Medicine NBME Shelf exam at the end of Phase 2.**

**Students in the MMM Integrated clerkship will receive a CP (conditional pass) until they pass the Family Medicine NBME Shelf exam to be taken at the end of Phase 2. If students fail any of the NBME shelf exams they will receive an Incomplete until they pass the failed Shelf exam.**

**We propose the NBME Shelf exams to be pass or fail.**

**Honor Code:**

Everyone is expected to adhere strictly to the honor code. Any attempts at cheating or plagiarism will be considered a violation of the University honor code and a failing grade will be assigned for the course. In addition, all students involved will be referred to the University's Honor Council.

**Accommodations for Students with Disabilities**

Students with documented disabilities needing to request special accommodations for this course should contact the [Office of Disability Services](#) (Camner Academic Resource Center in the Whitten University Center N201 on the Coral Gables Campus. Phone: 305-284-2374). *Please refer to the [Graduate student handbook](#) regard other policies and procedures*

## University of Miami, Miller School of Medicine, NextGen Sub-internship Guide

The sub-internship (Sub-I) experience offered during Phase 3 of the NextGen curriculum (first Sub-I rotation will be January 2023) is intended to provide a learning experience for the student that prepares them to serve as competent interns and effective members of an interdisciplinary team. This document serves as a guide to clerkship directors who are interested in developing a robust Sub-I experience for our students. All sub-internships are expected to provide an opportunity for students to learn and demonstrate competency in the core objectives outlined in this document. Sub-I directors will be part of a committee that evaluates all students, regardless of chosen sub-I, and are expected to create and participate in the supervision and grading of Objective Structured Clinical Exam (OSCE) that are conducted every 3 months.

We highly recommend incorporating elements of the NextGen Sub-I curriculum into the legacy Sub-I rotations as a pilot. To that end, your Sub-I curriculum/plans for NextGen class of 2024 (Phase 3) should be **ready by December 1, 2021, to allow for committee approval by Jan 2022, and implementation, in part as a pilot for legacy curriculum by August 2022.**

The Sub-I rotation will occur for most students prior to their residency application in Sept 2023. This is an opportunity for the student to distinguish themselves from their peers in their specialty of choice and will be a graded experience (i.e., not Pass/Fail). Therefore, robust assessments are required to evaluate student competency:

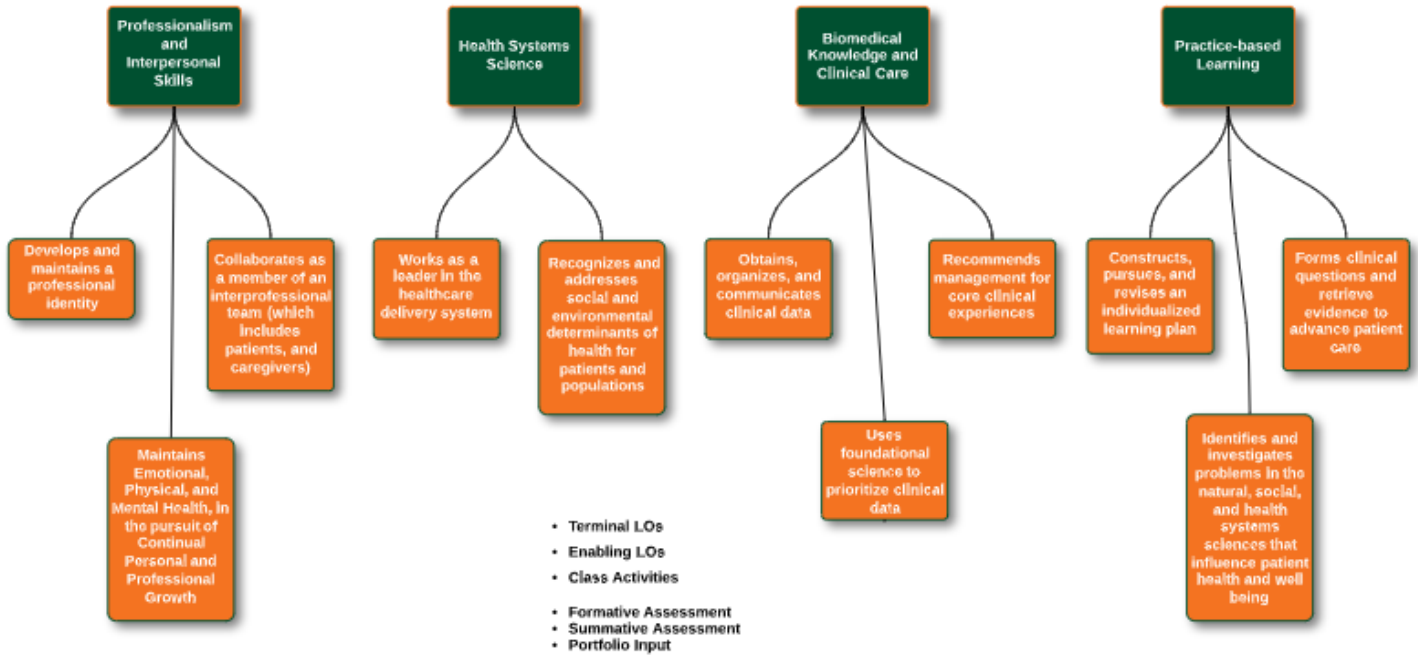
- End of rotation EPA based evaluation form
- Prioritized task journal
- Two representative discharge summaries
- Two representative progress notes
- One representative written handoff
- Page/call simulation
- OSCE and Standardized Patient (SP) encounter
- Online module or UME-designed workshop on medical student wellness

## AAMC Core EPAs

EPA 1	Gather a history and perform a physical examination
EPA 2	Prioritize a differential diagnosis following a clinical encounter
EPA 3	Recommend and interpret common diagnostic and screening tests
EPA 4	Enter and discuss orders and prescriptions
EPA 5	Document a clinical encounter in the patient record
EPA 6	Provide an oral presentation of a clinical encounter
EPA 7	Form clinical questions and retrieve evidence to advance patient care
EPA 8	Give or receive a patient handover to transition care responsibility
EPA 9	Collaborate as a member of an interprofessional team
EPA 10	Recognize a patient requiring urgent or emergent care and initiate evaluation and management
EPA 11	Obtain informed consent for tests and/or procedures
EPA 12	Perform general procedures of a physician
EPA 13	Identify system failures and contribute to a culture of safety and improvement



Empower to Transform, Inspire to Serve



Foundational Laboratory, Clinical, and Health Systems Science



## Sub-I Core Skills and Learning Objectives

Sub-internship core skill	Learning objectives	Assessment
<p>I. Time management skills</p> <p>Biomedical Knowledge and CC IEO: Obtains, organizes and communicates clinical data</p> <p>Prof and IP skills IEO: Collaborates as a member of an interprofessional team (including patients and caregivers)</p>	<p>1. Organize a daily patient care task list for each patient in a structured and systematic way so that required tasks (e.g., daily notes, orders, etc.) are not overlooked.</p>	<p>Student will maintain a <b>prioritized task journal</b> for each patient (no PHI) that will be reviewed and evaluated by attending or senior resident weekly and periodically sampled and evaluated by Sub-I committee.</p>
	<p>2. Prioritize daily patient care task list according to degree of importance/urgency.</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation</b></p> <p>Review of prioritized task journal. (<b>Online evaluation by senior resident to ensure correct prioritization</b>)</p>
	<p>3. Prioritize patients' clinical problems according to degree of clinical importance/urgency.</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>
	<p>4. Recognize one's own limitations and call on other team members to help.</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>
<p>II. Communicating effectively within healthcare teams</p> <p>Biomedical Knowledge and CC IEO: Obtains, organizes and communicates clinical data</p>	<p>1. Write accurate, concise, and well-organized transfer/accept notes, discharge summaries, and cross-cover notes</p>	<p>Review and evaluation of <b>two representative discharge summaries</b> evaluated by Sub-I director.</p>

Sub-internship core skill	Learning objectives	Assessment
<p>Prof and IP skills IEO: Collaborates as a member of an interprofessional team (including patients and caregivers)</p>		<p>Review and evaluation of <b>two representative progress notes by Sub-I director.</b></p>
	<p>2. Provide an <b>oral presentation of a clinical encounter</b>, tailoring length and content according to context</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>
	<p>3. Give and receive patient handoffs (both in writing and verbally) to transition care responsibility</p>	<p>Review and evaluation of <b>one representative written handoff</b> by senior team member <b>Sub-I director.</b></p> <p>Direct observation by senior team members and <b>end of Sub-I evaluation verbal handoffs.</b></p>
	<p>4. Speak with specialist/subspecialist colleagues to request consultation</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>
	<p>5. Communicate collaboratively with nursing and pharmacy staff to enhance patient care</p>	<p><b>Call simulation</b> set up through Gordon center.</p>
	<p>6. Communicate effectively with team case manager, social worker, and outpatient care providers to facilitate discharge planning</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>
<p>III. Patient evaluation skills—recognizing sick vs. non-sick patients</p>	<p>1. Gather appropriate clinical data from all appropriate sources (e.g., patient, family, nurse, medical records) in hypothesis-driven fashion to address the</p>	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p>

Sub-internship core skill	Learning objectives	Assessment
<p>Biomedical Knowledge and CC IEO: Applies foundational science to analyze and prioritize clinical data</p> <p>Biomedical Knowledge ad CC IEO: Recommend management for core clinical experiences</p>	main clinical problems (Reporter function of RIME)	
	2. Analyze and synthesize the collected clinical data set to formulate a prioritized differential diagnosis for the main undifferentiated problems (Interpreter function of RIME)	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p> <p>Evaluate progress notes to reflect this synthesis <b>by Sub-I director.</b></p>
	3. Recognize which clinical situations require additional assistance from upper level resident, faculty attending, and/or specialty consultants	Direct observation by senior team members and <b>end of Sub-I evaluation.</b>
	4. Develop initial diagnostic and/or therapeutic management plans for the main clinical problems (Manager function of RIME)	<p>Direct observation by senior team members and <b>end of Sub-I evaluation.</b></p> <p>Please refer to a list of common in-patient problems that sub-I should be comfortable with initial approach and management. This will be evaluated during daily encounters and also in <b>OSCE</b> and <b>call simulations.</b></p>
	5. Prioritize problem list according to degree of clinical importance (Interpreter function of RIME)	Student will maintain a <b>prioritized task journal</b> for each patient (no PHI) that

Sub-internship core skill	Learning objectives	Assessment
		will be reviewed and evaluated by attending or senior resident weekly and periodically sampled and evaluated by Sub-I committee.
<p data-bbox="105 506 505 579">IV. Knowing when to ask for assistance</p> <p data-bbox="105 632 578 751">Practice Based learning IEO: Form clinical questions and retrieve evidence to advance patient care</p>	<p data-bbox="641 506 1227 579">1. Recognize various techniques that can enhance and develop metacognitive skills</p> <p data-bbox="641 621 1227 695">2. Generate clinical questions and retrieve evidence to advance patient care</p> <p data-bbox="641 810 1179 930">3. Identify clinical and contextual situations that require assistance from clinical supervisors</p> <p data-bbox="641 1003 1179 1077">4. Utilize a communication framework when calling for clinical support</p>	<p data-bbox="1247 506 1539 579"></p> <p data-bbox="1247 621 1546 772">Direct observation by senior team members <b>and end of Sub-I evaluation.</b></p> <p data-bbox="1247 810 1546 961">Direct observation by senior team members <b>and end of Sub-I evaluation.</b></p> <p data-bbox="1247 1003 1546 1155">Direct observation by senior team members <b>and end of Sub-I evaluation.</b></p> <p data-bbox="1247 1213 1531 1287">Evaluation of call simulation approach</p>
<p data-bbox="105 1329 496 1360">V. Medical student wellness</p> <p data-bbox="105 1413 578 1570">Prof and IP skills IEO: Maintains emotional, physical, and mental health in the pursuit of continual personal and professional growth</p>	<p data-bbox="641 1329 1211 1444">1. Utilize a validated tool to assess one's personal risk of burnout e.g. Oldenburg burnout scale or similar</p> <p data-bbox="641 1518 1170 1591">2. Recall multiple evidence-based interventions that may aid in wellness</p> <p data-bbox="641 1633 1170 1749">3. Incorporate helpful techniques into daily practice by creating a behavior change plan (BCP)</p>	<p data-bbox="1247 1329 1503 1486">Completion of an <b>online module</b> or <b>UME designed workshop</b></p> <p data-bbox="1247 1507 1546 1612"></p> <p data-bbox="1247 1623 1546 1749"></p>

**Common in-patient presentations that every Sub-I should competently approach and initially manage is listed below. Please ensure that at minimum 3 of the non-emergent conditions and 3 of the emergent conditions are addressed and evaluated within the context of your proposed Sub-I experience and indicate which are realistically feasible for your proposed Sub-I.**

**Students will be required to complete online modules that address all these problems prior to starting their Sub-I experience and will be evaluated on some of these scenarios in the OSCE and again during their transition to residency weeks at the end of Phase 3.**

Recommend appropriate initial management for common non-emergent inpatient medical problems:

- 1) initial management for an inpatient with hypertension
- 2) initial management for a patient with fever
- 3) initial management for a patient with acute abdominal pain
- 4) initial management for a patient with hyperglycemia
- 5) initial management for a patient with hypoglycemia
- 6) initial work up and management for an inpatient with chest pain
- 7) initial work up and management for an inpatient with altered mental status
- 8) appropriate DVT Prophylaxis for an inpatient
- 9) initial management of electrolyte abnormalities

Recommend initial management and know when to ask for help for emergent inpatient medical problems:

- 1) initial management for a patient with shock
- 2) initial management for a patient in respiratory distress
- 3) initial management of seizure
- 4) fulfills the role of ACLS team leader when performing a resuscitation (in the context of a simulation)
- 5) initial management of acute GI bleed
- 6) initial management of pulmonary embolism
- 7) initial management of atrial fibrillation with rapid ventricular rate

These core skill sets will be evaluated by an OSCE every 3 months, direct observation, simulation of ACLS skill sets, and standardized patient encounters.

**Additional Sub-I Specific Skills that may be required by each specialty**

Surgical Sub-Is an additional skills station will be included in the OSCE evaluating basic skills such as suturing, and one hand knot tying.

**Please add any other specific skills that you want to propose for your Sub-I and evaluate in an OSCE station or another means of assessment here. Please write down the proposed skill and assessment method.**

## **Advanced Clinical Selective Criteria:**

### **Introduction:**

Advanced clinical selectives are for Phase 3 students who have successfully completed their clerkships. The purpose of these selectives are to better prepare the student for their career of choice and allow for introduction to advanced specialty specific clinical concepts and skills.

### **Criteria:**

The experience is 4 weeks in duration and require the highest level of patient involvement allowed a medical student.

The student will be given the opportunity to exercise critical clinical thinking and patient care skills (e.g. diagnosis, prognosis, and management) while under the direct supervision of attending physicians and senior residents/fellows. The attending and resident physicians will model the principles and commitments of the physician's professional life.

Students will follow the care of assigned patients with the responsible physician. The student must be able to work up and manage together with the residents and attending physicians the medical or surgical care of these selected patients. This may include both outpatient and inpatient experiences.

For in patient experiences, students will be placed on the same call schedule as the intern and will participate with the intern on the assignment. This includes following the same night call, weekend call, and weekend rounds as the intern.

In the surgical and obstetrical specialties, the student will assist the attending physician/fellows in births and operations. The student will participate in the diagnosis, preoperative care, surgery, and postoperative care of these patients. They will receive instruction in basic surgical techniques.

### **Assessment**

Advanced Clinical Selective course is a graded experience. Assessments include:

- Completion of Orientation Module (summative)
- Oral Exam on Specialty Specific Clinical Scenario (formative)
- Mid-course Feedback (formative)
- Written Assignment on Specialty Specific Clinical Question (summative)
- Common Assessment Form (summative)

## **Advanced Integrated Science Selective Criteria:**

### **Introduction:**

Phase 3 students who have successfully completed Phase 2 clerkship are required to choose one selective from a variety of advanced integrated science selectives that explicitly translate foundational science to clinical practice and allow students to reinforce important foundational science concepts taught in Phase 1 and 2. These selectives will emphasize interactive teaching methods and explore basic science topics that are related to student's career choice or academic interest.

### **Criteria:**

The experience is 4 weeks in duration and represent a combination of foundational science topics with relevant clinical applications. A foundational science content expert and a clinical content expert will be co-directors of the course and jointly design and evaluate students in the course. During the allotted 4-week experience, course directors may choose to divide the experience into 2 weeks didactic/small group learning and 2 weeks clinical integration or designate days that are clinical and days that are didactic over the 4-week period.

Suggested selective topics include:

- 1) Advanced clinical anatomy: allowing for individualized time on organ specific detailed anatomy (e.g. hand anatomy for the future hand surgeon) as well as OR time specific to that area of specialization
- 2) Immunology: overall topics in core immunology with specialized clinical experiences and topics in Rheumatology, Regenerative Medicine, HIV/Infectious disease, Immunology, and Stem cell transplantation as subcategories for interested students
- 3) Cancer biology: with clinical experiences in oncology clinics
- 4) Human Genetics: with clinical experiences in medical genetics, and developmental pediatrics
- 5) Neurobiology: with clinical experiences in neurology, stroke, clinical neuropsychology
- 6) Pharmacology and Evidence: with clinical experiences emphasizing safe, effective, and cost-effective prescription of medications, in addition to pharmacodynamics, pharmacokinetic, etc., discussions on clinical trial designs, FDA approval process, drug monitoring, etc.
- 7) Health system sciences (for those who are not in MPH or Pop health pathways): Value based health care, cost effectiveness analysis, population health management, health admin, business of medicine, with experiences in health administration and CMO responsibilities



8) Possible role of centers: DRI, liver disease, tap into existing programs at centers of excellence

### **Assessment**

Advanced Basic Science Selective course is a graded course. Assessments include:

Completion of Orientation Module (summative)

Written Exam on related science foundational topic (summative)

Mid-course Feedback (formative)

Common Assessment Form for related clinical activities (summative)




*NEXTGENMD*  
Accelerated Pathway to  
Residency

NEXTGENMD Pathway Fair



# Mission



The accelerated pathway offers students an opportunity to fast track specialty-specific career development **and** complete medical school at an accelerated pace.

# Goals

The student will:

## Demonstrate

- Demonstrate the acquisition of medical knowledge, clinical skills and clinical reasoning expected of a student ready to enter the supervised practice of medicine.

## Display

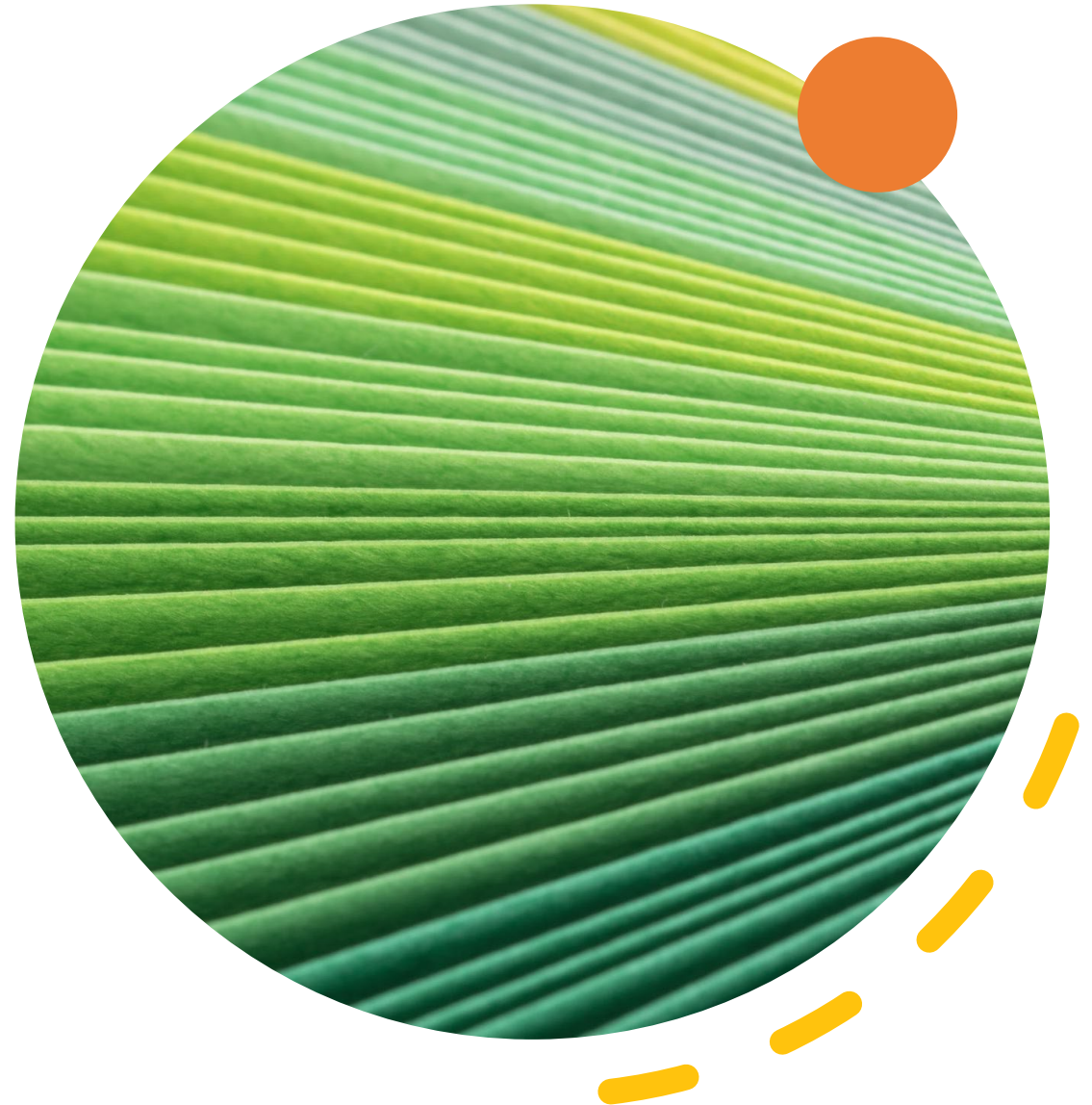
- Display the communication skills and professionalism of a student ready to enter the supervised practice of medicine.

## Recognize

- Recognize the social determinants of health and their impact on a specific patient population and specialty of medicine.

## Develop

- Through continuous mentorship develop research or quality improvement project in the specialty of choice.



The general pathway application is required.



A secondary application specific to the residency program is required.

Personal statement on why the student is choosing the specific specialty;

A personal statement about previous research or clinical experience in the preferred specialty, career goals, and research interests.



The application will include an interview with the program director, and potentially other members of the intern selection committee.

# Application Process

# Examples of Previous Experience

Employment

Research experiences

Clinical experiences

Leadership

Advanced degrees: MPH or PhD

UME-GME  
Continuum

On acceptance to the accelerated pathway, the student will be conditionally accepted into the residency.

Conditional on:

Passing all courses without remediation

Continued demonstration of professionalism and ethical behavior

Passing USMLE 1, USMLE Step 2 CK, USMLE Step 2 CS

# Curriculum



## Phase 1:

- No change in requirements
- Pathway: population health foundation

## Year 1 summer: 8 weeks

- Engagement with specialty department
- Clinical and/or research experiences
- Course work – will vary by program

## Phase 2:

- No change in requirements
- Rotations as described in NEXTGENMD

## Phase 3:

- Shortened
- Transitions to residency

Scholarly project required



USMLE

NEXTGENMD: 12 weeks



Accelerated Pathway: 8 weeks

All accelerated students must take USMLE Step 1, Step 2CK and Step 2 CS during this time.

Passing all three required to remain on the pathway.

# Mentorship





# Executive Committee

- Accelerated pathway students and outcomes will be monitored by an Executive Committee
  - Executive Dean for Education and Policy
  - Assistant/Associate Dean for Curriculum
  - Senior Associate Dean for Student Affairs
  - Pathway Director
  - Residency Directors
  - Associate Dean for GME

# Transfer back to NEXTGENMD 4 Year

- Failure of course
- Professionalism issues
- Student choice with approval of Executive Dean



# Confirmed Participating Programs

Anesthesiology

Emergency Medicine

Medicine: UM/JMH and UM/Holy Cross

Medicine and Pediatrics

Neurology

Orthopedics

Pathology

Pediatrics

Psychiatry

Radiology

Radiation Oncology

Surgery

# Contact Information: Participating Programs

Anesthesiology: Dr. Banks: [sbanks@med.miami.edu](mailto:sbanks@med.miami.edu)

Emergency Medicine : Dr. Freeman: [Chris.freeman@jhsmiami.org](mailto:Chris.freeman@jhsmiami.org)

Medicine: UM/JMH: Dr. Brown: [Sbrown5@med.miami.edu](mailto:Sbrown5@med.miami.edu)

Medicine and Pediatrics: Dr. Tolentino: [jxt1084@med.miami.edu](mailto:jxt1084@med.miami.edu)

Medicine: UM/Holy Cross: Dr. Williams: [Fwilliams!@med.miami.edu](mailto:Fwilliams!@med.miami.edu)

Neurology: Dr. Tornes: [Ltornes@med.miami.edu](mailto:Ltornes@med.miami.edu)

Orthopedics: Dr. Conway: [Sconway@med.miami.edu](mailto:Sconway@med.miami.edu)

Pathology: Dr. Gultekin: [sgultekin@med.miami.edu](mailto:sgultekin@med.miami.edu)

Pediatrics: Dr. Alba-Sandoval: [mxa508@miami.edu](mailto:mxa508@miami.edu)

Psychiatry: Dr. Saveanu: [rsaveanu@med.miami.edu](mailto:rsaveanu@med.miami.edu)

Radiology: Dr. Danton Gdanton1: [Danton1@med.miami.edu](mailto:Danton1@med.miami.edu)

Radiation Oncology : Dr. Takita: [ctakita@med.miami.edu](mailto:ctakita@med.miami.edu)

Surgery: Dr. Sleeman: [Dsleeman@med.miami.edu](mailto:Dsleeman@med.miami.edu)

Questions:

[jestonge@med.miami.edu](mailto:jestonge@med.miami.edu)

Websites:

GME.med.miami.edu

and

Graduate.Jackson.org



January 31, 2020


Linda Neider, Ph.D., M.A., M.B.A.  
Chair, Faculty Senate  
University of Miami  
Ashe Building, Suite 325  
252 Memorial Drive  
Coral Gables, FL 33146

Re: Council Approved a Proposal for New Medical School Curriculum for  
Office of Medical Education

Dear Dr. Neider,

This is to inform the Faculty Senate that the Medical School Faculty Council met on December 10, 2019, to review the Proposal for the Creation of a new curriculum, NextGenMD, which will reside in the Office of Medical Education at the University of Miami Miller School of Medicine (UMMSM). The Executive Faculty Curriculum Steering Committee (EFCSC), a standing committee of the Medical School Faculty Council, a body with appropriate expertise and membership, voted 13-1 to proceed with NextGenMD on August 27, 2019. Based on EFCSC approval, the new curriculum was unanimously approved by the Faculty Council membership with the stipulation that Senior Associate Dean for Undergraduate Medical Education or his/her designee will provide an update to the council once every year. Senior Associate Dean for Undergraduate Medical Education and Dean of the Medical School have agreed to provide periodic and yearly update about any change in curriculum and the information pertaining to the efficacy of the new curriculum to the Medical School Faculty Council.

Respectfully submitted,

  
Sanjoy K. Bhattacharya, M. Tech, Ph.D.  
Speaker, Medical Faculty Council



February 3, 2020

Linda Neider, Ph.D.  
Chair, Faculty Senate  
University of Miami  
Ashe Building, Suite 325  
252 Memorial Drive  
Coral Gables, FL 33146

*Re: Dean's Support for Miller School of Medicine's NextGenMD Curriculum*

Dear Dr. Neider:

I write to notify you of my full support for the University of Miami Miller School of Medicine's proposal for the NextGenMD curriculum. The faculty began this curricular renewal process in the spring of 2017 and are fully prepared to implement Phase 1 of this curriculum in August 2020.

As noted by the Faculty Council, the overall curriculum was approved by our Executive Faculty Curriculum Steering Committee in August 2019. This Faculty Council committee is charged with the oversight and management of the MD curriculum.

The atmosphere at the Miller School is charged with positive energy. Our leadership, faculty, students, and staff have come together around this opportunity to enhance the educational program. We are confident that this new curriculum will help our learners transform lives and empower them to serve our global community.

Thank you for the opportunity to inform the Faculty Senate of our efforts. Please do not hesitate to reach out to me if you have concerns or need additional information.

Sincerely,



Henri R. Ford, M.D., M.H.A.

December 2, 2019

Barbara Barzansky, PhD, MPHE  
American Medical Association  
330 North Wabash Avenue, Suite 39300  
Chicago, IL 60611-5885

Veronica M. Catanese, MD, MBA  
Association of American Medical Colleges  
665 K Street NW Suite 100  
Washington, DC 20001-2399

Dear Drs. Barzansky and Catanese,

I write to notify you that the University of Miami Miller School of Medicine (UMMSM) is undergoing major curriculum reform of the medical education program as a whole. We began this process in spring 2017 and will implement Phase I in August 2020. The enclosed information will provide significant detail of the new curriculum.

We are planning three phases of the new curriculum. Phase 1, or the pre-clerkship phase, runs from August of the first year through September of the second year, taking into account breaks and eight weeks in the summer to allow students interested in pursuing structured research experiences at NIH and other institutions, dual degree work or other scholarly work to be able to do this. Phase 2, or the clerkship phase, begins in October of the second year of matriculation and runs through September of the third year. We then give students dedicated time off to study and prepare for the USMLE exams. Phase 3, or the advanced phase, begins in January of the 3<sup>rd</sup> year and continues until graduation. The curriculum will have two longitudinal themes – Medicine as a Profession and Scholarly Concentration – that run concurrently throughout all four years.

I am very hopeful as we embark on this transformational process. The atmosphere here at the UMMSM is charged with positive energy. Our leadership, faculty, students, and staff have come together around this opportunity to improve the educational program. We are confident this new curriculum will help our learners transform lives and empower them to serve our global community.

Thank you for the opportunity to inform the LCME Committee of our efforts. Please do not hesitate to reach out to me if you have concerns or need additional information.

Sincerely,



Henri R. Ford, MD, MHA



LIAISON COMMITTEE ON  
MEDICAL EDUCATION

[www.lcme.org](http://www.lcme.org)

## MAJOR CURRICULAR MODIFICATION NOTIFICATION FORM

Please use this form to notify the Liaison Committee on Medical Education (LCME) of any major reorganization of one or more years of the medical education program or the program as a whole. No notification is required for changes such as revisions to individual courses or individual clerkships or the introduction of a new course.

If curricular modification is the introduction of a new parallel curriculum (track), please instead complete the New Parallel Curriculum (Track) Notification Form.

If you have questions or need advice on how to complete this form, contact the LCME Secretariat at [lcme@aamc.org](mailto:lcme@aamc.org).

### SUBMISSION INSTRUCTIONS

Please email [lcmesubmissions@aamc.org](mailto:lcmesubmissions@aamc.org) a dated and signed cover letter from the medical school dean addressed to the LCME Co-Secretaries and the completed notification form in a single PDF.

The cover letter and notification form must be submitted in time for the LCME to review the information prior to implementation of the change. Notification forms are reviewed as part of regularly scheduled LCME meetings. Use the table below to determine when the notification will be reviewed.

Date Form Received	Date Notification will be Reviewed by the LCME
August 2 – December 1*	February LCME meeting
December 2 – April 1*	June LCME meeting
April 2 – August 1*	October LCME meeting

\*If the 1st of these months falls on weekend or holiday, submission will be accepted the next non-holiday business day.

Please do not include hyperlinks within the document(s) of the submission. If a reference to a website is necessary, create an appendix with a table of contents and include PDFs of the webpages and/or screenshots.

Date of Submission	12/1/2019
School Name	University of Miami Leonard M. Miller School of Medicine
Date or academic year change will become effective	August 2020

Name and title of the program official submitting the information	Alex J. Mechaber, MD Senior Associate Dean for Undergraduate Medical Education, Bernard J. Fogel Chair in Medical Education, Professor of Medicine
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**Please complete the following questions with as much detail as possible. Expand the available space, as needed.**

1. Summarize the structure of the proposed curriculum modification, including the expected goals and how they will be evaluated. As an attachment, include a curriculum schematic that illustrates the placement of courses/clerkships within the revised portion of the curriculum.

The NextGenMD curriculum, born out of the work of a 2017 taskforce and 8 planning teams working since then, identified 6 key pillars of the new curriculum including: building from the right substrate of learners, assessments informing curriculum, disarticulation of the traditional 2+2 curricular structure, emphasis on active learning methodologies, longitudinal skills and mentoring, and an institutional commitment to education.

The NextGenMD curriculum strives to empower learners to transform lives and inspire learners to serve the global community. The curriculum will produce transformational leaders who will shape the future of medicine, direct health systems, and champion discovery and its translation into clinical interventions.

The overall program education goals for NextGenMD are outlined below and attached in Appendix 1. Graduates of the program will demonstrate the following knowledge, skills, and attitudes/behaviors in the highlighted core domains:

***Professionalism and Interpersonal Skills***

- Develops and maintains a professional identity
- Maintains emotional, physical and mental health in the pursuit of continual personal and professional growth
- Collaborates as a member of the interprofessional team (includes patients and care givers)

***Health Systems Sciences***

- Works as a leader in the healthcare delivery system
- Recognizes and addresses social and environmental determinants of health for patients and populations

***Biomedical Knowledge and Clinical Care***

- Obtains, organizes and communicates clinical data
- Applies foundational science to analyze and prioritize clinical data
- Recommends management for core clinical experiences

***Practice Based Learning***

- Constructs, pursues and revises an individualized learning plan
- Identifies and investigates problems in the natural, social, and health system sciences that influence patient health and well being
- Forms clinical questions and retrieves evidence to advance patient care

The NextGenMD curriculum is divided into 3 phases (schematic attached as Appendix 2):

**Phase 1** is grounded in the foundational and translational sciences that are taught and learned during the first year through symptom-based cases virtual clinics that incorporate health systems science,

social determinants of health, core clinical skills, and professionalism. Phase 1 is completed over 14 months, inclusive of 2 months of capstone work.

<b>Phase 1a (Inspire and Empower)</b>	4 weeks	Consists of content under the Medicine as a Profession longitudinal theme (see below)
<b>Phase 1b (Foundations of Biomedical Sciences)</b>	12 weeks	Comprised of foundational, translational, and health systems sciences taught in the context of the healthy patient
<b>Phase 1c (Examine Human Disease Through Symptoms)</b>	30 weeks	Incorporates foundational, translational and health systems sciences taught using symptom-based cases

**Phase 2** consists of integrated clinical clerkships during the second year, where continued themes of foundational, translational, and health systems sciences are embedded within clerkships; this provides students ample experience to plan their future areas of concentration. Phase 2 is completed over 12 months. Phase 2 begins with an introductory bootcamp to the clerkship curriculum. This bootcamp covers these core content areas: defining the medical student role, interprofessional teamwork, basic procedural skills, basic documentation skills, self-directed learning techniques, and how to be an effective learner in the clinical setting. Additionally, the bootcamp covers content that this reinforced throughout the entire phase including social determinants of health, patient safety, leadership and health advocacy, wellness promotion, and quality improvement. The clerkship experience is divided into 4 12-week integrated clerkships:

<b>Practice of Medicine</b>	Inpatient and outpatient internal medicine Integration of geriatrics, palliative medicine and specialty medicine
<b>From ER to the OR</b>	Emergency Medicine Anesthesiology Surgery
<b>Mind, Matter, and Medicine</b>	Neurology Psychiatry Family Medicine
<b>Health Through the Lifespan</b>	Obstetrics and Gynecology Pediatrics

All clerkships begin with a pre-clerkship block week that consists of case-based collaborative learning sessions highlighting basic science content pertinent to the upcoming clerkship. This block week also consists of interprofessional simulation exercises between medical, nursing, and other health professions students at sites including our School of Nursing Simulation Hospital. Basic science content will be taught using multiple modalities including online learning and interactive large group sessions, in addition to case-based collaborative learning that continues weekly during each clerkship block.

**Phase 3** allows all students in their final years of school to develop a personalized pathway of excellence in a specialized area of interest, including scholarly work, dual-degree pursuits, or an early transition to residency. All students will either be required to select a pathway of emphasis for their scholarly work, obtain a dual degree from a menu of existing 4-6 year dual degrees in addition to new 4 year dual degrees being developed, or for a select few students who meet defined competencies, enter residency early after 3 years. The accelerated pathway to residency will be available to no more than 10% of the class. Phase 3 for most students is completed over 17 months.

The highlights of phase 3 are as follows:

<b>Career Development</b>	Students will select from an individualized menu of clinical electives
<b>Advanced Basic Science and Clinical Science Selectives</b>	Students will be required to complete a number of advanced integrated basic science and clinical science selectives
<b>Required Selectives</b>	Students will be required to complete selectives in Population Health and Health Systems Sciences
<b>Sub-internship</b>	Students will be required to complete a sub-internship individualized towards their specialty of choice
<b>Scholarly Project</b>	Students will have a scholarly project to complete with defined deliverables including a capstone project
<b>Transition to Residency</b>	Students will complete both general and specialty-specific transition to residency courses prior to graduation

**Longitudinal Themes:** There are two longitudinal themes across all three phases and all four years of the curriculum.

- **Medicine As a Profession** (essentials of medical practice) covers the following 7 content areas: clinical skills, professionalism, communication skills, population health, health systems sciences, nutrition and wellness, and personal development. Within this theme, students have biweekly early clinical experiences longitudinally in the offices of community voluntary faculty, an EMT Lite experience developing skills in emergency response including experiential opportunities with local paramedics, and experience in navigating patients through the local health care landscape.
- **Scholarly Concentration** fosters the Miller School's core identity of community engagement and social responsibility. It integrates scholarly activity into the curriculum, mirroring the balance of research, education, and clinical care required of the academic physician today. Specific content areas taught in this theme for all students include research design, epidemiology/biostatistics, quality improvement, and collaborative working environments.

2. Summarize the methods of instruction and assessment and the expected learning outcomes for the revised curriculum.

During phase 1, NextGenMD will employ a combination of self-directed case-based inquiry, guided case-based collaborative learning, and lab case correlates to provide just in time delivery of basic and health system sciences. Students will be oriented and expected to utilize self-regulated mixed learning methods to prepare for the case discussions.

Assessment is the cornerstone on which the curricular revision is built. The language of entrustability is implied throughout the curricular blueprint from the program to session level objectives. The AAMC's core entrustable professional activities (EPAs) are all represented in the curriculum and the language of discrete observable behaviors anchors each objective. The guiding principle of this approach is that repeated direct observations of the students performing the core activities of a physician should form the basis of determining their readiness for independent practice. Throughout all three phases of the NextGenMD curriculum, students and educators will track individual progress using frequent low-stakes assessments. Students will be coached to create individual learning plans based on their interests and demonstrated strengths and weakness. Students will be required to choose one of three pathways that will inform their individualized

learning plan: early enrollment into residency, a scholarly concentration, or a dual degree. An assigned coach/mentor will collaborate with students to track their progress towards their personal and institutional goals using an e-portfolio and academic dashboard. Institutional thresholds for promotion will guide both decisions regarding academic advancement and early entry into residency.

Students in Phase 1 will be assessed primarily through both team performance and individual reflection in the context of our case-based collaborative learning curriculum. Probing short answer and essay questions will allow students to demonstrate deeper knowledge and mastery learning while limited use of multiple-choice questions (MCQs) will be employed to provide feedback regarding students' progress towards meeting external measures of progress in similarly formatted exams such as the USMLE Step Examinations. Professional skills such as leadership and communication will be evaluated using direct observation, personal reflection, and peer feedback.

As a student advances to Phase 2, their evaluations will derive an increasing component from their performance on simulations and real-world applications of knowledge. Observed Standardized Clinical Examinations (OSCEs) will make up a substantial portion of their evaluations and will be tailored to explore performance in nuanced areas of patient evaluation and care as well as leadership and communication skills. Once again, peer evaluation and personal reflection will be utilized as evaluation methods for progress in areas of professionalism and personal wellness. An added dimension of assessment by allied health professionals will prepare students to recognize their strengths and weakness as they pertain to teamwork across professions.

The goal of evaluation in Phase 3 is to confirm readiness for entry into residency as well as progress towards a scholarly concentration or dual degree. The assessments obtained in Phases 1 and 2 will be contextualized in Phase 3 to evaluate the sophisticated advanced level student. Advanced students will be evaluated in patient care settings performing supervised tasks commensurate to their level of training. Scholarly production will be qualitatively assessed by assigned coaches/mentors who will track the students' progress in developing practical expertise in their chosen pathway and will inform decisions regarding attainment of Certificates in the respective areas of study or dual degrees. Degree-specific progress will be co-evaluated by the Department or School granting the second degree.

The ultimate goal is to build a case for readiness for residency based on the consistent successful performance of professional activities that map to both EPAs and GME Core Competencies and Milestones.

- Complete the following table with the planned student enrollment for each of the first four years the proposed curriculum will be in effect:

Curriculum Year	2020-21	2021-22	2022-23	2023-24
Year One	200	200	200	200
Year Two	0	200	200	200
Year Three	0	0	200	200
Year Four	0	0	0	200

4. Summarize any specific/additional resources that will be needed for the change, including faculty, IT, educational space, clinical resources, and funding. Summarize the availability of such resources to support the change.

### **Faculty**

NextGenMD will change our current definition of an educator, with a greater emphasis on longitudinal mentoring than before. There will be a cohort of Master Educators, defined as those medical school teaching faculty with a significant involvement in the NextGenMD curriculum. These Master Educators will have varied roles described below, with designated support for each. To provide the appropriate support for each faculty member to focus on the educational mission, faculty compensation in NextGenMD will move from our historic educational relative value unit (eRVU) model to a full-time equivalent (FTE) model of protecting faculty's time.

Phase 1 will be broken down into two parts; the mornings will be dedicated to the delivery of the traditional science content while the afternoons will focus on the themes of Medicine as a Profession (including Clinical Skills and the Early Clinical Experiences) and Scholarly Concentration. For the mornings, there will be facilitators for the case-based learning sessions that occur for several hours per week; these faculty will have support for this effort. See the attached schematic of the weekly morning and afternoon schedules (Appendix 3). There will be other ad hoc faculty who participate in specific cases based on the content area that aligns with their specialty (e.g. Just in Time delivery). Overseeing the content will be 2 groups of faculty: Domain Directors and Discipline Directors. Domain Directors will oversee several weeks of Phase 1 content clustered based on symptom complex; across the 42 weeks of Phase 1 content, there will be 7 Domain Directors (2 in Phase 1b and 5 in Phase 1c) each with 0.2 FTE of protection. The Discipline Directors focus on Phase 1 but, unlike the Domain Directors, have a longitudinal role across all 3 Phases of NextGenMD. There are 9 Discipline Directors from the laboratory sciences (Anatomy & Cell Biology, Physiology, Biochemistry and Molecular Biology, Microbiology/Immunology, Pharmacology) and clinical sciences (Genetics, Radiology, Pathology, Oncology); these faculty are supported 0.3 FTE to ensure the appropriate delivery of their content expertise across Phase 1 but also in Phase 2 (the clerkships) and Phase 3 (the specialty-specific phase).

Much of the theme of Medicine as a Profession will be delivered through the Miller School's existing Academic Societies model, where the medical students are broken up into 12 academic societies at Orientation with much of the peer mentoring occurring in this context with the help of faculty mentors. However, in NextGenMD this will be a school-supported role, in which two faculty members will be assigned to each society with 0.25 FTE supported for this function. Each faculty member will be assigned 8 students per year (half of an incoming cohort per Society) and will serve in various related capacities including mentor, advisor, coach, clinical skills preceptor, and learning community facilitator. Faculty members will also provide competency assessments of learners, but they will specifically evaluate students from other Societies to avoid a potential conflict of interest. Importantly, the current structure of specialty- and research-specific mentors will remain in place, with the Society faculty serving as referrals to the more tailored mentors. Emphasizing the importance of leadership involvement in this structure, each of the 12 Societies will have a third faculty mentor who is part of the central administration of Medical Education (e.g. medical education deans in curriculum and student affairs, deans in other areas outside of undergraduate medical education, and leaders of the Department of Medical Education and the Academy of Educators). These third mentors per Society will serve as the backup for student sessions that need to be covered and will be involved with the social aspect of the Societies.

Medicine as a Profession also includes the Early Clinical Experiences in Phase 1. In the first part of this phase, students will work with local community preceptors across various specialties, focusing in part on



standard history, physical examination, and communication skills but also getting real-world exposure to health systems science, the social determinants of health, and the business of medicine; close coordination with the medical school's Alumni Association has allowed the NextGenMD curriculum to engage with a large pool of local physicians who are interested in working with medical students in their practices. In the last section of the Early Clinical Experiences, students will get an EMT Lite experience that highlights interprofessional education in preparation for the clerkship year. EMTs and paramedics will teach 6 skills sessions covering most of the basics of EMT training, and coupled with that will be 6 ride-alongs with local paramedics and fire fighters. This experience is made possible by the strong existing relationship between the Gordon Center for Research in Medical Education, which provides training for many of the first responder personnel in South Florida, and local firefighter, paramedic, and EMT units.

The Scholarly Concentration theme will be overseen by a faculty member supported for that role. Students in dual degree programs will have degree-specific oversight co-managed by the relevant Department/School providing the second degree. Students accelerating early into residency will work with their Society faculty in collaboration with central medical education administration for appropriate oversight. For the remainder of students who elect a Pathway of Emphasis, Pathway Directors will be supported to provide oversight of the students' scholarly endeavors as well as to provide the appropriate assessments relevant to each Pathway.

Phase 2 will be overseen by 4 Integrated Clerkship Directors; each of those directors will have specialty-specific co-directors also supported for this effort. This will be an inter-departmental collaboration, as the Integrated Clerkship Directors will oversee students across multiple clinical departments. The Discipline Directors described in Phase 1 will continue to ensure appropriate content delivery of their respective themes in Phase 2, and the Society faculty and Scholarly Concentration faculty will also continue to oversee students in Phase 2.

Phase 3 is very individualized based on a student's scholarly concentration and specialty interest; to that end, there will be a menu of robust selectives that are overseen by Selective Directors supported for this effort with guidance from the Discipline Directors noted above, in addition to a larger menu of low-stakes Electives mostly for experiential value. Here, as in Phases 1 and 2, the Society faculty and Scholarly Concentration faculty will continue to oversee students.

Given the complexity of the student assessment portfolio, there will be a Director of Assessment and Entrustment across all 3 Phases overseeing a new assessment and entrustment faculty committee.

Given these changes in faculty structure and roles, faculty development is a critical for success. This academic year, a new Senior Associate Dean for Faculty Affairs was appointed, with the principal charge of faculty development. A new Department of Medical Education was also created to house much of the faculty development work. In AY20, there is a heavy emphasis on developing faculty to be able to teach and facilitate in the NextGenMD curriculum.

The diagram below highlights the various faculty roles and degree of involvement by Phase:

	<u>Phase 1</u>	<u>Phase 2</u>	<u>Phase 3</u>	
<b>Faculty Mentor</b>	✓✓✓	✓✓	✓✓✓	
<b>TBL facilitator</b>	✓✓✓	-	-	
<b>Domain Director</b>	✓✓✓	-	-	✓✓✓ heavy involvement
<b>Discipline Director</b>	✓✓✓	✓✓	✓✓✓	✓✓ moderate involvement
<b>Pathway Director</b>	✓✓	✓	✓✓✓	✓ light involvement
<b>Clerkship Director</b>	-	✓✓✓	-	
<b>Selective Director</b>	-	-	✓✓✓	
<b>Director, Assessments</b>	✓✓✓	✓✓✓	✓✓✓	

### Clinical Resources

For the first 3 years of the NextGenMD curriculum, we will also be teaching in the Legacy curriculum. Given the changes in scheduling, accommodations are being made both in instruction and teaching space to allow for the overlap. In AY20-21, the first year of the NextGenMD curriculum, the Legacy curriculum 2<sup>nd</sup> year students will still be in the pre-clerkship phase, mostly in the organ system modules. Currently, most organ system modules are taught twice, once for the MD students and once for the MD/MPH students. However, over the past few years there has been progressive integration of these two tracks, leveraging the best learning opportunities for each. Currently, 3 of the organ system modules in the MS2 year are taught concurrently (MD and MD/MPH cohorts together). In AY20-21, the other 5 organ system modules will be similarly merged and taught together such that the entire MS2 year will be the same for the MD and MD/MPH cohorts. This allows faculty overseeing the pre-clerkship phase to have about the same time commitment in this bulge pre-clerkship year; for example, a current organ system module director teaches 2 distinct modules in the current system (MD and MD/MPH courses) and in AY20-21 will still have 2 courses to teach (the combined MD and MD/MPH module in Legacy and the relevant domain of symptoms in Phase 1 of NextGenMD). The current predominantly lecture-based format of the MS2 years precludes any significant space issues for the didactic sessions, since the mornings are spent in an existing lecture hall with the other 2 auditoria available for the infrequent morning large group sessions in NextGenMD. For Small Group sessions, NextGenMD MS1 students will be using PBL and TBL-sized rooms in the mornings (while the Legacy MS2 students are in lecture), and the Legacy MS2 students can then use the PBL-sized rooms in the afternoons (when the NextGenMD MS1 students are doing Early Clinical Experiences, TBL sessions related to Medicine as a Profession, their Scholarly Concentration work, or Clinical Skills exercises).

In the yearly 6 week overlap of Phase 1 students that will first occur in AY21-22 (by that time the Legacy students will have completed the pre-clerkship curriculum), there is minimal faculty overlap; MS1 students will be in Phase 1b with predominantly basic scientists teaching while MS2 students will be in Phase 1c with predominantly clinicians teaching. The Early Clinical Experiences will also not overlap (MS1 students will have community preceptor experiences while MS2 students will be doing the EMT Lite experience including EMT skills sessions and paramedic ride alongs), and students will be at different phases of their Scholarly Concentration that precludes overlap. There will be overlap of resources for Clinical Skills and longitudinal mentoring, but for these 6 weeks the AM and PM sessions will be flipped for MS2 students to provide sufficient space (again keeping in mind Legacy students will

no longer be in the pre-clerkship phase, which opens up the space they were using).

In AY20-21, the Legacy MS2 students who all did the organ system modules together (MD and MD/MPH) will all finish in March 2021 (the normal time of year for the MD/MPH cohort and 6 weeks earlier for the MD cohort). All 200 students will then take 6 weeks of study time for the USMLE Step 1 Examination. After that, the MD/MPH have 6 weeks for Public Health courses while MD students have 6 weeks of traditional Legacy curriculum Electives. In June 2021 the 200 Legacy students who are rising to MS3 will do the first NextGenMD Integrated Clerkship for 12 weeks, then for the following 36 weeks there will be a clerkship bulge in which both NextGenMD MS2 and Legacy MS3 students are doing the NextGenMD Integrated Clerkships until June 2022 (described in greater detail below). The Legacy MS4 students then have a decompressed year since they will have already completed their 5 non-core required courses in the Integrated Clerkship model (previously these were required in the MS4 year but in NextGnMD are integrated into the core clerkships), and the NextGenMD students complete their last Integrated Clerkship before dedicated study time for USMLE Step 1 and Step 2 CK Examinations prior to Phase 3 that starts January 2023.

As the preclerkship phase is shortened, there will be additional students in the clinical environment. The 200 students in the Legacy Curriculum will begin Clinical Clerkships in June 2021. The 200 NextGenMD curriculum students who matriculate in 2020 will begin Phase 2 (Clinical Clerkships) in September 2021. Between September 2021 and June 2022, there will be approximately 400 students in the clinical environment. In order to mitigate the confusion of differing curricula within the clinical years with two separate groups of learners, all 400 students will experience the Next GenMD Curriculum for their clinical clerkships. This will allow Legacy curriculum students to benefit from the curricular innovations in NextGen and they will serve as an early pilot group in June 2021. This is being communicated to Legacy students through student leaders, townhall meetings, and multiple electronic communications.

The time period between September 2021 and June 2022 has been referred to as “The Bulge” by many medical schools that have experienced curricular change and a concordant temporary increase in students in the clerkship environment. The resources for the clinical instruction of medical students, including patient numbers, case mix, and inpatient and ambulatory teaching sites, are more than adequate and constitute a strength of the Miller School’s undergraduate medical education programs. Medical students receive their clinical instruction at a wide constellation of primary teaching sites for patient care experiences. Clinical teaching facilities include Jackson Memorial Hospital, (a public teaching hospital and one of the largest in the country), University of Miami Hospitals and Clinics, and the Miami VA Medical Center. At the Regional Medical Campus, teaching facilities include ten community hospital affiliations, health department clinics, and community physician offices to provide a wide range of clinical experience. The Associate Dean for Clinical Curriculum is actively meeting with Clerkship Directors to determine the existing capacity of each of the clerkships including previously underutilized clinical service lines within our current hospital and ambulatory sites; as an example, subspecialty service lines within Internal Medicine and Surgery have capacity for additional learners on the team. We are also exploring affiliations with community hospitals and practices to expand capacity. As an example, Memorial Healthcare System in Broward County is one of the largest public healthcare systems in South Florida and currently offers several residency training programs. Memorial has untapped capacity for a large number of medical students during our Bulge period and has expressed interest in providing clerkship experiences for our students.

Clerkship Directors will also require larger classroom space for clerkship didactic sessions, and a number of existing auditoria and large group meeting spaces will be utilized for this purpose. Online resources will also need to be created to educate faculty, residents, and students about the NextGenMD Curriculum. This will be done in coordination with the Office of Faculty Affairs.

The tables below list existing inpatient and ambulatory teaching sites.

Existing *inpatient teaching sites* where medical students take one or more required clerkships, which have capacity for expansion.

<b>Facility Name (Campus)</b>	<b>Required Clerkships</b>
Jackson Memorial Hospital (Miami)	MED, SUR, OBG, PSY, PED, ANES, EMED, NEUR, RAD
Veterans Administration Medical Center (Miami)	MED, SUR, PSY, ANES, GERI, NEUR
University of Miami Hospital (Miami)	MED, SUR, OBG, PSY, ANES, GERI, NEUR
UMHC/SCCC (Miami)	MED, SUR, OBG, RAD
Mount Sinai Medical Center (Miami)	MED
JFK Medical Center (RMC)	MED, SUR, NEUR, PSY, RAD, GERI, ANES
West Palm Beach VA Medical Center (RMC)	MED, SUR, GERI, PSY, RAD, GERI, ANES
Jupiter Medical Center (RMC)	OBG, SUR, RAD, ANES
Holy Cross Hospital (RMC)	OBG, EMED, MED, SUR, RAD, GERI, ANES
Broward Health-Chris Evert Children's Hospital (RMC)	PED
South County Mental Health Center (RMC)	PSY
Morse Geriatric Center (RMC)	GERI
Good Samaritan Hospital (RMC)	SUR, RAD, ANES
St. Mary's Hospital (RMC)	OBG
West Palm Hospital (RMC)	SUR, RAD, ANES

Existing *ambulatory teaching sites* where medical students take one or more required clerkships, which have capacity for expansion.

<b>Facility Name (Campus)</b>	<b>Required Clerkships</b>
University Hospital Clinics (Miami)	SUR, OBG, PSY, PED, GERI
Community Hospital Clinics (Miami)	SUR, MED, OBG, PSY, PED, EMED, NEUR
Health Centers (Miami)	MED
Private Physician Offices (Miami)	FM, MED, OBG, PSY
Rural Clinic/AHEC (Miami)	FM
VA Clinic (Miami)	SUR, MED, PSY, GERI, NEUR
School Clinic (Miami)	PED

Pediatric Mobile Clinic (Miami)	PED
University Clinics (Boca-RMC)	FM
Community Hospital Clinics (RMC)	PBH, OBG, GERI
VA Clinic (RMC)	GERI, PSY
Health Centers (RMC)	PBH, PSY
Private Physician Offices (RMC)	MED, SUR, OBG, PED, FM, PSY, NEUR
Bethesda Memorial Hospice Center (RMC)	GERI
Holy Cross Urgent Care Center (RMC)	EMED

**Key:**

RMC	Regional Medical Campus	NEUR	Neurology
MED	Internal Medicine	RAD	Radiology
SUR	Surgery	GERI	Geriatrics
OBG	Obstetrics and Gynecology	FM	Family Medicine
PSY	Psychiatry	PBH	Public Health
PED	Pediatrics	EMED	Emergency Medicine
ANES	Anesthesiology		

**Information Technology**

The NextGenMD curriculum will employ new educational technology and learning platforms in addition to continuing to use Blackboard, the learning management system supported by the University of Miami. The Miller School has already been utilizing Medtrics for curriculum management and database. NextGenMD will expand its use of Medtrics for student assessment, course management and scheduling in addition to student portfolios. The Miller School had also been using the Osmosis platform as a companion for online videos, self-assessment questions, and a student performance dashboard in selected pre-clerkship courses/modules. NextGenMD will expand the use of Osmosis for courses/modules throughout all 3 Phases. Domain and Discipline directors in addition to other faculty content experts will work with the Osmosis team to update content videos in addition to self-assessment questions.

During the clerkship year, no additional IT support will be required. All clinical sites utilize electronic health records and have high-speed Internet to which all students have access. Each of the hospital sites offers access to computers with Internet access and online educational resources. University of Miami students on clinical rotations have access to all Calder Medical Library electronic resources. Each of the hospital sites offers access to on-site medical libraries, which can also be used by students as study space. Both guest and secure wireless networks are available throughout the Medical Campus in public spaces as well as classrooms, labs, offices, lounges, and clinical spaces. Faculty and students at the Miller School are supported by a group of eight IT staff members who are not shared with another school or college. These Medical Education IT staff address specific educational needs such as recording lectures, running servers that support medical education functions, updating classroom technology, and creating new online educational materials. In addition to their normal duties, this group works with faculty to explore new technologies, services, and pedagogical techniques that can enrich the medical education experience. The Medical Education IT staff are connected to the larger University of Miami IT department so they can leverage the staffing and specialized skills of the broader IT organization for needs such as server security, desktop support, instructional design, learning space design, and network connectivity.

### Educational Space

The NextGenMD curriculum in Phases 1 and 2 will require the use of small group and large group teaching rooms for self-directed case-based inquiry and guided case-based collaborative learning through case-based learning and team-based learning formats. Prior to AY2019-20, an additional 7 small group teaching rooms were built at the Calder Medical Library bringing the total small group teaching rooms to 31. To accommodate team-based learning in larger groups, the Dean has re-allocated six departmental teaching spaces to be used for the NextGenMD curriculum; all of these departmental classrooms can be configured for team-based learning, have been updated with the latest audiovisual technology, and are in close proximity to the Rosenstiel Medical Sciences Building. The table below outlines current and new teaching spaces (in bold).

### NextGenMD Teaching Space

Room Type/Purpose	# of Rooms of this size/type	Seating capacity (provide a range if variable across rooms)	Building(s) where rooms are located
Lecture Halls	2	160	Rosenstiel Medical Sciences Building
Lecture Hall	1	88	Rosenstiel Medical Science Building
Lecture Hall	1	80	Gordon Center for Research in Medical Education
Lecture Hall	1	200	Anne Bates Leach Eye Hospital
Lecture Hall	1	100	Lois Pope Building
Computer Lab	1	40	Rosenstiel Medical Science Building
Computer Lab	1	30	Gordon Center for Research in Medical Education
Computer Lab	1	9-32	Calder Medical Library
Learning Labs	12	22	Rosenstiel Medical Science Building
Anatomy Labs	6	30	Rosenstiel Medical Science Building
Conference Rooms	5	10-60	Rosenstiel Medical Science Building
Classrooms	3	23-60	Gordon Center for Research in Medical Education
Classrooms	6	10-50	Mailman Center
Small Group Rooms	12	10	Rosenstiel Medical Science Building
<b>Small Group Rooms</b>	<b>7</b>	<b>10</b>	<b>Calder Medical Library</b>

Standardized Patient Exam Rooms	6	3	Gordon Center for Research in Medical Education
Simulation Lab	1	6-12	Center for Patient Safety
Training/Simulation Labs	3	25-30	Gordon Center for Research in Medical Education
<b>Large Group Room</b>	<b>1</b>	<b>50</b>	<b>Rosenstiel Medical Science Building 2<sup>nd</sup> Floor (Dermatology Conference Room)</b>
<b>Large Group Room</b>	<b>1</b>	<b>50</b>	<b>Rosenstiel Medical Science Building 3<sup>rd</sup> Floor (Microbiology/Immunology Podack Classroom)</b>
<b>Large Group Room</b>	<b>1</b>	<b>50</b>	<b>Rosenstiel Medical Science Building 6<sup>th</sup> Floor (Pharmacology Classroom)</b>
<b>Large Group Room</b>	<b>1</b>	<b>50</b>	<b>Bachelor Children’s Research Institute 5<sup>th</sup> Floor Classroom</b>
<b>Large Group Room</b>	<b>1</b>	<b>50</b>	<b>R. Bunn Gautier Building 1<sup>st</sup> Floor (Biochemistry and Molecular Biology Classroom)</b>
<b>Large Group Room</b>	<b>1</b>	<b>40</b>	<b>Rosenstiel Medical Science Building 8<sup>th</sup> Floor (Minimally Invasive Surgical Classroom)</b>

### **Funding for the NextGenMD and Legacy Curricula**

In order to support the elements of the NextGenMD curriculum described above, additional dollar support for faculty effort in a variety of different areas will be required. We estimate that a total cost for Phase 1 of the curriculum as outlined will approximate \$6,815,167. This is in contrast with the current spending for Year 1 of the MD and MD/MPH Program at our School, which approximates \$3,332,208. Thus the incremental cost for the first year of the NextGenMD curriculum will approximate \$3,482,959. During this first year, the second year in the Legacy curriculum will continue with similar faculty effort as at present at an approximate cost of \$2,543,569. Note that during the second year of the NextGenMD curriculum this cost for the second year of the Legacy curriculum will disappear.

Phase 2 of the NextGenMD curriculum, the clerkship year that comprises 12 months, overlaps with the third year of the Legacy curriculum for 8 of those 12 months, so total number of students on integrated clerkship rotations will increase from 200 to 400 as outlined above. The increased cost for this clinical “bulge” with two classes engaged in clerkship rotation for 8 of the 12 months will require an additional \$4,501,802. Simultaneously the Legacy third and fourth year activities will continue at their current level of support.

Phase 3 of the NextGenMD curriculum will be focused heavily on scholarly concentration activities for approximately one half of the class (research programs and capstone projects) while the other half pursue either dual degrees or early transition to residency. The estimated cost for Phase 3 will be \$2,555,067 in the first year and then \$4,624,467 when fully implemented.

Once in steady-state, the NextGenMD curriculum will represent an incremental investment by the Miller School of Medicine of \$4,956,363 compared to the current cost of the curriculum in 2020 dollars. We have a firm commitment for the total dollars to support the roll out of Phase 1 of the NextGenMD curriculum and the maintenance of the Legacy curriculum going forward. Sources of support will include tuition revenue, institutional and endowed scholarships dollars, and direct support from the University of Miami Health System (UHealth). This activity and this level of support has the strong prior approval of the President of the University of Miami, the Chairperson of the Board of Trustees of the University of Miami, the CEO of the University of Miami Health System, and the Dean and Chief Academic Officer of the Miller School of Medicine.

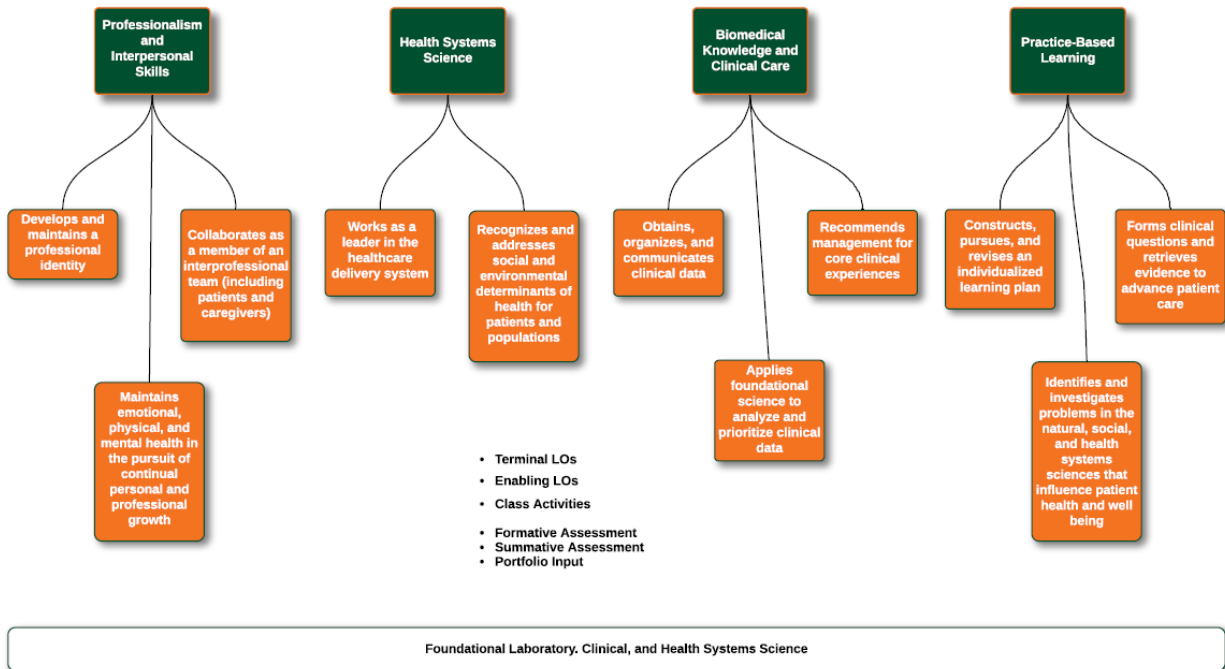
	FY'20	FY'21	FY'22	FY'23	FY'24
<b>Legacy Curriculum (cost to run full 4-year curriculum)</b>	\$ 12,420,601	\$ 12,420,601	\$ 12,437,926	\$ 12,446,514	\$ 12,457,501
<b>Cost to Teach Two Curriculums over Next 5 Years:</b>					
<b>Legacy</b>	12,420,601	9,088,393	5,355,081	489,327	-
<b>NextGenMD</b>	1,294,000	6,815,167	11,584,647	16,211,901	17,413,864
<b>Sub-Total: Cost by Year to Teach Two Curriculums</b>	\$ 13,714,601	\$ 15,903,559	\$ 16,939,728	\$ 16,701,227	\$ 17,413,864
<b>Incremental Investment</b>	\$ 1,294,000	\$ 3,482,959	\$ 4,501,802	\$ 4,254,714	\$ 4,956,363



## Appendix 1 (NextGenMD Program Goals)





### Empower to Transform, Inspire to Serve



## Appendix 2 (Curriculum Schematic of NextGenMD)

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### Empower to Transform, Inspire to Serve

**PRE-CLERKSHIP PHASE**

<b>1A: Inspire &amp; Empower</b>	<b>1B: Foundations Biomedical Sciences</b>	<b>1C: Examine Human Disease through Symptoms</b>											
AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

**CLERKSHIP PHASE: Integrated Clerkships**

												<b>USMLE</b>		
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Mind, Matter, and Medicine   Practice of Medicine   From the ER to the OR</b> <b>Health through the Lifespan   Intersections</b>														

**ADVANCED PHASE: Pathways & Capstones**

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
<b>Sub-internship   Electives   Pathways and Dual Degrees   Specialty Selectives   Integrated Science Capstones</b>																

**Medicine as a Profession (Longitudinal)**  
 Clinical Skills | Professionalism | Communication Skills | Population Health | Health System Sciences | Nutrition & Wellness | Personal Development

**Scholarly Concentration (Longitudinal)**

<http://www.med.miami.edu/education>

**Appendix 3 (Schematic of Weekly Schedules in Phases 1b and 1c)**

Phase 1B Schedule

	Friday	Weekend	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend		
8:00			<b>Guided Case-based Learning A3</b> 5 groups of 40	<b>Facilitator Office Hours</b>		<b>Guided Case-based Learning B3</b> 5 groups of 40	<b>Assessment low stakes</b> 10 straightforward MCQs			
8:30			gDQ - 6 complex questions  Discussion of answers and related questions			gDQ - 6 complex questions  Discussion of answers and related questions	<b>Weekly Q &amp; A Session</b>			
9:00	<b>Self Directed Case-based Inquiry A 1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b>  Readings, videos, additional resources  Students complete iRAT** (10 MCQs)	<b>Correlates</b> Just-in-time delivery of anatomy and clinical tests; basic science problem; mini cases 100 students	<b>Self-Study</b>	<b>Self Directed Case-based Inquiry B1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b>  Readings, videos, additional resources  Students complete iRAT (10 MCQs)	<b>Correlates</b> Just-in-time delivery of anatomy and clinical tests; basic science problem; mini cases 100 students	<b>Self-Study</b>	<b>Self Directed Case-based Inquiry C 1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b>  Readings, videos, additional resources  Students complete iRAT** (10 MCQs)
9:30										
10:00	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT	<b>Self-Study</b>	<b>Correlates</b> Just-in-time delivery of anatomy and clinical tests; basic science problem; mini cases 100 students	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT	<b>Self-Study</b>	<b>Correlates</b> Just-in-time delivery of anatomy and clinical tests; basic science problem; mini cases 100 students	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT
10:30		5 hours			5 hours					5 hours
11:00	<b>Guided Case-based Learning A2</b> 5 groups of 40  *gDQ- 3 complex open ended questions and group assessment  Discussion of answers and related MCQs			<b>Guided Case-based Learning B2</b> 5 groups of 40  *gDQ- 3 complex open ended questions and group assessment  Discussion of answers and related MCQs				<b>Guided Case-based Learning C2</b> 5 groups of 40  *gDQ- 3 complex open ended questions and group assessment  Discussion of answers and related MCQs		
11:30			<b>Wrap up Case A</b>		<b>Wrap up Case B</b>					
12:00										

\*gDQ- Group Discussion Questions- group discussion followed by a group assessment

\*\* iRAT- Individual Readiness Assessment

**Phase 1C Schedule**

	Friday	Weekend	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend		
8:00			<b>Guided Case-based Learning A3</b> 5 groups of 40	<b>Facilitator Office Hours</b>		<b>Guided Case-based Learning B3</b> 5 groups of 40	<b>Assessment low stakes</b> 10 straightforward MCQs			
8:30			gDQ - 6 complex questions Discussion of answers and related questions			gDQ - 6 complex questions Discussion of answers and related questions	<b>Weekly Q &amp; A Session</b>			
9:00	<b>Self Directed Case-based Inquiry A 1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b> Readings, videos, additional resources Students complete iRAT** (10 MCQs)	<b>Correlates</b> Mini cases, patient panels, just in time delivery of science problems 100 students	<b>Self-Study</b>	<b>Self Directed Case-based Inquiry B1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b> Readings, videos, additional resources Students complete iRAT (10 MCQs)	<b>Correlates</b> Mini cases, patient panels, just in time delivery of science problems 100 students	<b>Self-Study</b>	<b>Self Directed Case-based Inquiry C 1</b> 5 groups of 40 Students provided with case (5-7 sentences) Develop evidence based questions Identify 3 objectives 3 easy MCQs for each team	<b>Self-Regulated Learning</b> Readings, videos, additional resources Students complete iRAT** (10 MCQs)
9:30										
10:00	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT 5 hours	<b>Self-Study</b>	<b>Correlates</b> Mini cases, patient panels, just in time delivery of science problems 100 students	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT 5 hours	<b>Self-Study</b>	<b>Correlates</b> Mini cases, patient panels, just in time delivery of science problems 100 students	<b>Self-Regulated learning</b>	2nd part of the case is released and/or Questions for the gDQ is released upon completion of the iRAT 5 hours
10:30										
11:00	<b>Guided Case-based Learning A2</b> 5 groups of 40 *gDQ- 3 complex open ended questions and group assessment Discussion of answers and related MCQs		<b>Wrap up Case A</b>	<b>Guided Case-based Learning B2</b> 5 groups of 40 *gDQ- 3 complex open ended questions and group assessment Discussion of answers and related MCQs		<b>Wrap up Case B</b>	<b>Guided Case-based Learning C2</b> 5 groups of 40 *gDQ- 3 complex open ended questions and group assessment Discussion of answers and related MCQs			
11:30										
12:00										

\*gDQ- Group Discussion Questions- group discussion followed by a group assessment

\*\* iRAT- Individual Readiness Assessment

1B and 1C PM Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
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Wednesday is Self-Regulated Learning for everyone. On M/T/R/F, 50 of the 200 students are in ECE, CS/SP/MAP, SC, or the 2<sup>nd</sup> SRL.  
 This diagram represents a typical week from the student perspective but each thread is running throughout the week.

1:00	<b>Phase 1b: EMT Lite</b>  <b>Phase 1c: preceptor</b>	<u>Clinical Skills, Standardized Patients (CS/SP)</u>	Self-Regulated Learning (SRL)	Scholarly Concentration (SC)	Self-Regulated Learning (SRL)
1:30		Medicine as a Profession longitudinal theme (MAP)			
2:00					
2:30					
3:00					
3:30					
4:00					
4:30					