

Academic Catalog



2021-2023

Integrity



knowledge

Innovation

Service



Wisdom

Excellence



Knowledge

Morehouse School of Medicine

The 2021-2023 Morehouse School of Medicine's catalog is considered the source for academic and programmatic requirements for students entering programs during the summer 2021, thorough summer 2023 semesters. Although this catalog was prepared using the best information available at the time, all information is subject to change without notice or obligation. MSM claims no responsibility for errors that may have occurred during the production of this catalog. For current calendars, tuition rates, requirements, deadlines, etc. students should refer to the registrar's office website: <http://www.msm.edu/Officeoftheregistrar/index.php> for the semester in which they intend to enroll.

The courses listed in this catalog are intended as a general indication of Morehouse School of Medicine's curricula; therefore, courses and programs are subject to modification at any time. Not all courses are offered every semester, and faculty teaching particular courses or programs may vary from time to time. The content of a course or program may be altered to meet particular class needs.

Morehouse School of Medicine

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Morehouse School of Medicine



The future miracles of medicine and science are predicated on the innovation, passion, and dedication of young bright minds eager to provide solutions to health challenges across the globe. For 40 years, Morehouse School of Medicine (MSM) has trained physicians, scientists, and health care professionals dedicated to improving the lives and well-being of individuals and communities with an emphasis on underserved and vulnerable populations in Georgia, the nation, and the world.

Now as we usher in a new era in the history of MSM with the continuation of our 2015-2023 strategic plan, we have move beyond cataloguing health disparities to the creation and advancement of health equity. The foundation is being laid for a future predicated on team-based medicine to meet the demands of a dynamic health care landscape.

Morehouse School of Medicine provides a unique nurturing environment for faculty, residents, and students to hone their research, clinical skills, and public health acumen to ensure patients and communities have access to the necessary resources and care to achieve an optimal level of health.

Closing the gaps in patient care and health outcomes will require us to think differently and act boldly. Our rigorous academic courses and degree programs are designed to provide each student with an interdisciplinary insight in medicine. Our various learning communities ensure that we educate students that are culturally competent and understand the value of cognitive diversity. Moreover, through aggressive community engagement, we are advancing the mission of Morehouse School of Medicine beyond the boundaries of our campus and directly into the lives and families we serve.

It is my hope that you feel inspired and empowered to navigate your career as a health care professional. I challenge you to personify the core values of Morehouse School of Medicine: knowledge, wisdom, excellence, service, integrity, and innovation.

Sincerely,

Valerie Montgomery Rice, MD
President

Morehouse School of Medicine



Morehouse School of Medicine stands at an important inflection point—both for the institution and the broader society. We are uniquely positioned to address the dual pandemics of social injustice and health inequity. Our collective focus and investments will change lives, making an impact on our communities. In doing so, this institution will fuel a more diverse clinical and research work force and mitigate the barriers of access to deliver increased quality care. Over the last year, as we received national recognition for our social mission, we created new partnerships with world-class organizations, including CommonSpirit Health and Bloomberg Philanthropies, that have fortified our position to achieve long standing strategic goals. Strategic discipline and stewardship remain central components of our success. We need to and will become a highly reliable organization, not just for our strategic partnerships and our research missions, but for our students, learners and patients.

One example is Morehouse Healthcare. MHC is an incredible opportunity to do what we do best—deliver health equity through culturally competent care to our patients across metropolitan Atlanta. We will do so by being innovative in our approaches and partnerships, and by prioritizing an expansion in primary and subspecialty care areas that our community needs most. We will strengthen and grow our existing relationship with Grady Health Systems, while building new partnerships with other major health care organizations, such as CommonSpirit.

In the current landscape, our research missions are even more relevant even as new equity questions emerge with technological advancements such as artificial intelligence. Then, too, MSM's academic platform continues to grow as we embark on new offerings in public health and online education. This year, our flawless performance on The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) accreditation process as well as the LCME is a testament to hard work by many, but also a marker of the capability of our institution to be highly impactful. We will build on that momentum with increased resources and an even deeper pool of talent throughout our organization as we scale up to meet this moment.

Our mission is clear, and I could not be prouder to work with you to open the next chapter of an even brighter future for Morehouse School of Medicine. Thank you all, its good to be home!

Sincerely,

Joseph A. Tyndall, MD, MPH
Professor and Dean

Medical Degree

MEDICAL DEGREE (MD) 2021-2022 Academic Calendar

MD1 First Year

Fall 2021 Semester

| | |
|---|---|
| New Student Orientation (Welcome Session Tues. Jun.29 @ 8:30am) | Tues. Jun. 29 – Wed. Jun. 30, 2021 |
| Fall 2021 Semester Classes Begins | Thurs. Jul. 1, 2021 |
| Independence Day Holiday (Sun. Jul. 4, 2021) | Mon. Jul. 5, 2021 (No Classes) |
| Labor Day Holiday | Mon. Sept. 6, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat & Pinning Ceremony | Fri. Sept. 17, 2021 |
| Thanksgiving Break | Wed. Nov. 24 – Sun. Nov. 28, 2021 |
| End of Semester Exams | Fri. Dec. 17, 2021 |
| Winter Break | Fri. Dec. 17, 2021 @ 5:00pm – Sun. Jan. 2, 2022 |

Spring 2022 Semester

| | |
|-------------------------------------|---------------------------------------|
| New Year's Holidays | Fri. Dec. 31, 2021 – Sat. Jan 1, 2022 |
| Spring 2022 Semester Classes Begins | Mon. Jan. 3, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Research Day | Wed. Feb 09, 2022 |
| Match Day | Fri. Mar. 18, 2022 |
| Spring Break | Sat. Mar. 19 – Sun. Mar. 27, 2022 |
| Good Friday Holiday | Fri. Apr. 15, 2022 |
| Last Day of Class/ Exams | Fri. May 20, 2022 |
| Grade Posting Period | Mon. May 23 – Fri. May 27, 2022 |

MD2 Second Year

Fall 2021 Semester

| | |
|---|---|
| Orientation (9:00am) | Mon. Aug. 9, 2021 |
| Fall 2021 Semester Classes Begins | Tues. Aug. 10, 2021 |
| Labor Day Holiday | Mon. Sept. 6, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat & Pinning Ceremony | Fri. Sept. 17, 2021 |
| Thanksgiving Break | Wed. Nov. 24 – Sun. Nov. 28, 2021 |
| Winter Break | Fri. Dec. 17, 2021 @ 5:00pm – Sun. Jan. 2, 2022 |

Spring 2022 Semester

| | |
|-------------------------------------|--|
| New Year's Holidays | Fri. Dec. 31, 2021 – Sat. Jan. 2, 2022 |
| Spring 2022 Semester Classes Begins | Mon. Jan. 03, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Research Day | Wed. Feb. 9, 2022 |
| Match Day | Fri. Mar. 18, 2022 |
| Spring Break | Sat. Mar. 19 – Sun. Mar. 27, 2022 |
| Good Friday Holiday | Fri. Apr. 15, 2022 |
| Last Day of Class/ Exams | Fri. May 13, 2021 |
| Deadline for USMLE Step I Exam | Thurs. June 30, 2022 |

Medical Degree (MD)

MEDICAL DEGREE (MD) 2021-2022 Academic Calendar

MD3 Third Year

Fall 2021 Semester

| | |
|---|---|
| Orientation (9:00 am) | Thurs. Jul. 1, 2021 |
| Student Clinician Ceremony (6:00pm) | Thurs. Jul. 1, 2021 |
| Fall 2021 Semester Classes Begins | Tues. Jul. 6, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat & Pinning Ceremony | Fri. Sept. 17, 2021 |
| Thanksgiving Break | Wed. Nov. 24 @ 5:00 pm – Sun. Nov. 28, 2021 |
| Winter Break | Sat. Dec. 18, 2021 – Sun. Jan. 2, 2022 |

Spring 2022 Semester

| | |
|---|---------------------------------------|
| New Year's Holidays | Fri. Dec. 31, 2021 – Sat. Jan 1, 2022 |
| Spring 2022 Semester Classes Begins | Mon. Jan. 3, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Match Day | Fri. Mar. 18, 2022 |
| Career Day in Medicine Workshops (8:30am) | Sat. Mar. 19, 2022 |
| Spring Break, Good Friday, Easter | Fri. Apr. 15 – Sun. Apr. 17, 2022 |
| Memorial Day Holiday | Mon. May 30, 2022 |
| Clinical Comprehensive | Sat. Jun. 4, 2022 |
| Last day of classes | Fri. Jun. 17, 2022 |

MD4 Fourth Year

Fall 2021 Semester

| | |
|--|--|
| Orientation (1:30pm) | Fri. Jun. 11, 2021 |
| Clinical Elective I | Tues. Jul. 6 – Fri. Jul. 30, 2021 |
| Clinical Elective II | Mon. Aug. 2 – Fri. Aug. 27, 2021 |
| Clinical Elective III | Mon. Aug. 30 – Fri. Sept. 24, 2021 |
| Labor Day Holiday | Mon. Sept. 6, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat & Pinning Ceremony | Fri. Sept. 17, 2021 |
| Clinical Elective IV | Mon. Sept. 27 – Fri. Oct. 22, 2021 |
| Clinical Elective V | Mon. Oct. 25 – Fri. Nov. 19, 2021 |
| Clinical Elective VI | Mon. Nov. 22 – Fri. Dec. 17, 2021 |
| Thanksgiving Break | Wed. Nov. 24 @ 5:00 pm – Sun. Nov. 28, 2021 |
| Application for Graduation Deadline (May 2022 Graduates) | Fri. Dec. 3, 2021 |
| Commencement (December 2021 Graduates) | December 17, 2021 (3 rd Friday in December) |
| December 2021 Degree Conferral Date | December 17, 2021 |
| Winter Break | Sat. Dec. 18, 2021 – Sun. Jan. 2, 2022 |

Medical Degree (MD)

| MEDICAL DEGREE (MD) 2021-2022 Academic Calendar | |
|--|---|
| MD4 Fourth Year | |
| Spring 2022 Semester | |
| New Year's Holidays | Fri. Dec. 31, 2021 – Sat. Jan. 1, 2022 |
| Clinical Elective VII | Mon. Jan. 3 – Fri. Jan. 28, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Clinical Elective VIII | Mon. Jan. 31 – Fri. Feb. 25, 2022 |
| Clinical Elective IX | Mon. Feb. 28 – Fri. Mar. 25, 2022 |
| Match Day | Fri. Mar. 18, 2022 |
| Clinical Elective X | Mon. Mar. 28 – Fri. Apr. 22, 2022 |
| Spring Break, Good Friday, Easter | Fri. Apr. 15, 2022 - Sun. Apr. 17, 2022 |
| *Clinical Elective XI | Mon. Apr. 25 – Fri. May 20, 2022 |
| Commencement Rehearsal (12 Noon) | Wed. May 18, 2022 |
| Class Day Program | Fri. May 20, 2022 |
| Commencement | Sat. May 21, 2022 (3 rd Saturday in May) |
| May 2022 Degree Conferral Date | May 21, 2022 |
| *Clinical Elective XII | Mon. May 23 – Fri. Jun. 17, 2022 |

***If a 4th year student is enrolled in Clinical Elective XI or XII, your degree will not be awarded until completion of the clinical elective and final grade is received by the Registrar. Degree verification will not be verified until all degree requirements are completed.**

Medical Degree (MD)-Rotation

MD3 Rotation Schedule

8 Week Block (IM; OB; PEDS; SURG)

First Rotation – Tues. Jul. 6 – Fri. Aug. 27, 2021

Second Rotation – Mon. Aug. 30 – Fri. Oct. 22, 2021

Third Rotation – Mon. Oct. 25 – Fri. Dec. 17, 2021

Winter Break- Sat. Dec. 18, 2021 - Sun. Jan. 2, 2022

Fourth Rotation – Mon. Jan. 3 – Fri. Feb. 25, 2022

Fifth Rotation – Mon. Feb. 28 – Fri. Apr. 22, 2022

Spring Break, Good Friday, Easter – Fri. Apr. 15 – Sun. Apr 17, 2022

Sixth Rotation – Mon. Apr. 25 – Fri. Jun. 17, 2022

6 Week & 2 Week Blocks (FM; PSYCH)

First Rotation – Tues. Jul. 6 – Fri. Aug. 13, 2021 (6 weeks) / Mon. Aug. 16 – Fri. Aug. 27, 2021 (2 weeks EXex)

Second Rotation – Mon. Aug. 30 – Sept. 10, 2021 (2 weeks EXex) / Mon. Sept. 13 – Fri. Oct. 22, 2021 (6weeks)

Third Rotation – Mon. Oct. 25 – Fri. Nov. 5, 2021 (2 weeks EXex) / Mon. Nov. 8 – Fri. Dec. 17, 2021 (6 weeks)

Winter Break - Sat. Dec. 18, 2021 - Sun. Jan. 2, 2022

Fourth Rotation – Mon. Jan 3. – Fri. Jan. 14, 2022 (2 weeks EXex) / Mon. Jan. 18 – Fri. Feb. 25, 2022 (6weeks)

Fifth Rotation – Mon. Feb. 28 – Fri. Mar. 11, 2022 (2 weeks EXex) / Mon. Mar. 14 – Fri. Apr. 22, 2022 (6weeks)

Spring Break, Good Friday, Easter – Fri. Apr. 15 – Sun. Apr 17, 2022

Sixth Rotation – Mon. Apr. 25 – Fri. May 6, 2022 (2 weeks EXex) / Mon. May. 9 – Fri. Jun. 17, 2022 (6weeks)

Medical Degree (MD)-Rotation

MD4 4 Week Clinical Elective Schedule

Tues. Jul. 6 - Fri. Jul. 30, 2021 (Clinical Elective I)

Mon. Aug. 2 - Fri. Aug. 27, 2021 (Clinical Elective II)

Mon. Aug. 30 - Fri. Sept. 24, 2021 (Clinical Elective III)

Mon. Sept. 27 - Fri. Oct. 22, 2021 (Clinical Elective IV)

Mon. Oct. 25 - Fri. Nov. 19, 2021 (Clinical Elective V)

Mon. Nov. 22 - Fri. Dec. 17, 2021 (Clinical Elective VI)

Winter Break- Sat. Dec. 18, 2021- Sun. Jan. 2, 2022

Mon. Jan. 3 - Fri. Jan. 28, 2022 (Clinical Elective VII)

Mon. Jan. 31 - Fri. Feb. 25, 2022 (Clinical Elective VIII)

Mon. Feb. 28 - Fri. Mar. 25, 2022 (Clinical Elective IX)

Mon. Mar. 28 - Fri. Apr. 22, 2022 (Clinical Elective X)

Spring Break, Good Friday, Easter - Fri. Apr. 15 - Sun, Apr. 17, 2022

***Mon. Apr. 25 - Fri. May 20, 2022 (Clinical Elective XI)**

***Mon. May. 23 - Fri. Jun. 17, 2022 (Clinical Elective XII)**

***If a 4th year student is enrolled in Clinical Elective XI or XII, your degree will not be awarded until completion of the clinical elective and final grade is received by the Registrar. Degree verification will not be verified until all degree**

Graduate Education in Biomedical Science (GEBS)

GRADUATE EDUCATION IN BIOMEDICAL SCIENCES (GEBS) (PhD, MSBR, MSBT, MSCR, MSHI, MSMS, MSNS)

| Summer 2021 MSMS 1 Year Accelerated Track | |
|--|--|
| New Student Program Orientation | Thurs. Jun. 3- Fri. Jun. 4, 2021 |
| Registration | Tue. Jun. 1 – Fri. Jun. 4, 2021 |
| Summer 2021 Semester Classes begins (8 weeks) | Mon. Jun. 7, 2021 |
| Independence Day Holiday (Sun. Jul. 4, 2021) | Mon. Jul. 5, 2021 (No Classes) |
| Last Day to Withdraw from a Course with “W” Grade | Fri. Jul. 1, 2021 |
| Last Day of Classes | Fri. Jul. 30, 2021 |
| Grade Posting Period | Mon. Aug. 2 – Fri. Aug. 6, 2021 |
| New Student Welcome Session | Fri. Aug. 6, 2021 (8:30 am) |
| Fall 2021 Semester | |
| New Student Orientation (Welcome Session Fri. Aug. 6 @ 8:30am) | Thurs. Aug. 5 – Fri. Aug. 6, 2021 |
| Fall 2021 Semester Classes begins (PhD, MSBR, MSNS continuing students) | Thurs. Jul. 1, 2021 |
| Independence Day Holiday (Sun. Jul. 4, 2021) | Mon. Jul. 5, 2021 (No Classes) |
| Application for Graduation Deadline (September 2021 PhD, MSBT Graduates) | Fri. Jul. 30, 2021 |
| Add/Drop (PhD, MSBR, MSNS continuing students) | Tues. Jul. 6 - Mon. Jul. 12, 2021 |
| Fall 2021 Semester Classes begins (new & returning students) | Mon. Aug. 9, 2021 |
| Add/Drop (new & returning students) | Mon. – Fri. Aug. 9 - 13, 2021 |
| Absolute Completion Deadline (September 2021 Graduates) | Wed. Sept. 1, 2021 |
| Labor Day Holiday | Mon. Sept. 6, 2021 |
| Application for Graduation Deadline (December 2021 Graduates) | Fri. Sept. 10, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat and Pinning Ceremony | Fri. Sept. 17, 2021 |
| Fall Break (1 st Year GEBS students only) | Thurs. Oct. 7 – Fri. Oct. 8, 2021 |
| Advisement Period (Spring 2022 Semester - 1 st Year GEBS & continuing students) | Mon. Oct. 11 – Fri. Nov. 12, 2021 |
| Last Day to Withdraw from a Course with a “W” Grade | Fri. Oct. 29, 2021 |
| Registration (Spring 2022 Semester – continuing students) | Mon. Nov. 15, 2021 – Fri. Jan. 7, 2021 |
| Cross Registration/ ARCHE Deadline (Spring 2022 Semester) | Mon. Nov. 8, 2021 |
| Thanksgiving Break (1 st Year GEBS students only) | Wed. Nov. 24 – Sun. Nov. 28, 2021 |
| Thanksgiving Holiday Break (PhD, MSBR, MSBT, MSCR, MSMS, MSNS) | Thurs. Nov. 25 – Sun. Nov. 28, 2021 |
| Absolute Completion Deadline (December 2021 Graduates) | Tues. Dec. 1, 2021 |
| Last Day of Classes | Thurs. Dec. 2, 2021 |
| Reading Day | Fri. Dec. 3, 2021 |
| Application for Graduation Deadline (May 2022 Graduates) | Fri. Dec. 3, 2021 |
| Final Exams | Mon. Dec. 6 - Fri. 10, 2021 |

Graduate Education in Biomedical Science (GEBS)

GRADUATE EDUCATION IN BIOMEDICAL SCIENCES (GEBS)

| | |
|--|---|
| Grade Posting Period (1st Year GEBS students only) | Sat. Dec. 11 – Fri. Dec. 17, 2021 |
| Grade Posting Period (PhD, MSBR, MSCR, MSMS, MSNS - continuing students) | Sat. Dec. 11 – Thurs. Dec. 31, 2021 |
| December 2021 Commencement | Dec. 17, 2021 (3 rd Friday in December) |
| December 2021 Conferral Degree Date | December 17, 2021 |
| Winter Holiday Break (1 st Year GEBS, MSBT, MSMS students only) | Sat. Dec. 11, 2021 – Sun. Jan. 2, 2022 |
| Winter Holiday Break (PhD, MSBR, MSCR, MSNS) | Thurs. – Sun. Dec. 23 – 26, 2021 |
| Spring 2022 Semester | |
| New Year's Holidays | Thurs. Dec. 31, 2021 - Sun. Jan. 2, 2022 |
| Spring 2022 Semester Classes begins | Mon. Jan. 3, 2022 |
| Drop/Add Period | Mon. - Fri. Jan. 3 - 7, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Research Day | Wed. Feb. 9, 2022 |
| Advisement Period (Fall 2022 Semester – continuing students) | Mon. Mar. 14 – Fri. Apr. 8, 2022 |
| Registration (Fall 2021 Semester – continuing students) | Mon. Apr. 18 – Fri. Aug. 12, 2022 |
| Spring Break (1st Year GEBS Students only) | Sat. Mar. 19 – Sun. Mar. 27, 2022 |
| Last Day to Withdraw from a Course with a “W” Grade | Thurs. Mar. 31, 2022 |
| Good Friday Holiday | Fri. Apr. 15, 2022 |
| Absolute Completion Deadline (PhD, MSBR, MSNS - May 2022 Graduates) | Sun. May 1, 2022 |
| Last Day of Classes (MSCR, MSMS – May 2022 Graduates) | Fri. Apr. 22, 2022 |
| Final Exams (MSMS – May 2022 Graduates) | Mon. Apr. 25 – Fri. Apr. 29, 2022 |
| Grade Posting (May 2022 Graduates) | Fri. Apr. 29 – Tues. May 3, 2022 |
| Last Day of Classes (MSCR, MSMS, MSNS - continuing students) | Fri. Apr. 29, 2022 |
| Final Exams (PhD, MSBR, MSCR, MSMS, MSNS – continuing students) | Mon. May 2 – Fri. May 13, 2022 |
| Grade Posting Period (MSMS, MSCR, MSNS – continuing students) | Fri. May 6 – Mon. May 16, 2022 |
| Grade Posting Period (PhD, MSBR – continuing students) | Fri. May 6 – Thurs. Jun. 30, 2022 |
| Commencement Rehearsal (12 Noon) | Wed. May 18, 2022 |
| Class Day Program | Fri. May 20, 2022 |
| May 2022 Commencement | Sat. May 21, 2022 (3 rd Saturday in May) |
| May 2022 Conferral Degree Date | May 21, 2022 |
| Qualifying Exam Part I (PhD) | Thurs. Jun. 2 - Fri. Jun. 3 & Mon. Jun. 6, 2022 |
| Last Day of Classes (PhD, MSBR, MSNS - continuing students) | Thurs. June 30, 2022 |

Graduate Education in Biomedical Science (GEBS)

| Master of Science in Biotechnology (Online MSBT) | |
|---|--|
| Summer 2021 Semester Academic Calendar | |
| Summer 2021 Semester (Term I) Classes begins | Monday, May 3, 2021 |
| Add/Drop | Monday, May 3 – Thursday, May 6, 2021 |
| Memorial Day Holiday | Monday, May 31, 2021 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Tuesday, June 1, 2021 |
| Summer 2021 Semester (Term I) Classes ends | Sunday, June 27, 2021 |
| Grades Due (Term I) | Wednesday, June 30, 2021 |
| Summer 2021 Semester (Term II) Classes begins | Monday, June 28, 2021 |
| Add/Drop | Monday, June 28 – Thursday, July 1, 2021 |
| Independence Day Holiday (July 4, 2021) | Monday, July 5, 2021 (No Classes) |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, July 26, 2021 |
| Summer 2021 Semester (Term II) Classes ends | Sunday, August 22, 2021 |
| Grades Due (Term II) | Wednesday, August 25, 2021 |
| Fall 2021 Semester Academic Calendar | |
| Fall 2021 Semester (Term I) Classes begins | Monday, August 23, 2021 |
| Add/Drop | Monday, August 23 – Thursday, August 26, 2021 |
| Labor Day Holiday | Monday, September 6, 2021 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, September 20, 2021 |
| Fall 2020 Semester (Term I) Classes ends | Sunday, October 17, 2021 |
| Grades Due (Term I) | Wednesday, October 20, 2021 |
| Fall 2021 Semester (Term II) Classes begins | Monday, October 18, 2021 |
| Add/Drop | Monday, October 18 – Thursday, October 21, 2021 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, November 15, 2021 |
| Thanksgiving Break | Wednesday November 24 – Friday November 26, 2021 |
| Fall 2021 Semester (Term II) Classes ends | Sunday, December 12, 2021 |
| Grades Due (Term II) | Wednesday, December 15, 2021 |
| Winter Break | Monday, December 13 – Monday, January 3, 2022 |

Graduate Education in Biomedical Science (GEBS)

Master of Science in Biotechnology (Online MSBT)

| Spring 2022 Semester Academic Calendar | |
|--|---|
| Spring 2022 Semester (Term I) Classes begins | Monday, January 3, 2022 |
| Add/Drop | Monday, January 3 – Thursday, January 6, 2022 |
| M. L. King Jr. Holiday | Monday, January 17, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, January 31, 2022 |
| Spring 2022 Semester (Term I) Classes ends | Sunday, February 27, 2022 |
| Grades Due (Term I) | Wednesday, March 9, 2022 |
| Spring 2022 Semester (Term II) Classes begins | Monday, February 28, 2022 |
| Add/Drop | Monday, February 28 – Thursday, March 3, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, March 28, 2022 |
| Good Friday Holiday | Friday, April 15, 2022 |
| Spring 2022 Semester (Term II) Classes ends | Sunday, April 24, 2022 |
| Grades Due | Wednesday, April 27, 2022 |
| Spring Break | Monday April 25 – Friday, April 29, 2022 |
| Summer 2022 Semester Academic Calendar | |
| Summer 2022 Semester (Term I) Classes begins | Monday, May 2, 2022 |
| Add/Drop | Monday, May 2 – Thursday, May 5, 2022 |
| Memorial Day Holiday | Monday, May 30, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Tuesday, May 31, 2022 |
| Summer 2022 Semester (Term I) Classes ends | Sunday, June 26, 2022 |
| Grades Due (Term I) | Wednesday, June 29, 2022 |
| Summer 2022 Semester (Term II) Classes begins | Monday, June 27, 2022 |
| Add/Drop | Monday, June 27 – Thursday, June 30, 2022 |
| Independence Day Holiday | Monday, July 4, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, July 25, 2022 |
| Summer 2022 Semester (Term II) Classes ends | Sunday, August 21, 2022 |
| Grades Due (Term II) | Wednesday, August 24, 2022 |

Graduate Education in Biomedical Science (GEBS)

Master of Science in Biotechnology (Online MSBT)

Fall 2022 Semester Academic Calendar

| | |
|--|--|
| Fall 2022 Semester (Term I) Classes begins | Monday, August 22, 2022 |
| Add/Drop | Monday, August 22 – Thursday, August 25, 2022 |
| Labor Day Holiday | Monday, September 5, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, September 19, 2022 |
| Fall 2022 Semester (Term I) Classes ends | Sunday, October 16, 2022 |
| Grades Due (Term I) | Wednesday, October 19, 2022 |
| Fall 2022 Semester (Term II) Classes begins | Monday, October 17, 2022 |
| Add/Drop | Monday, October 17 – Thursday, October 20, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, November 14, 2022 |
| Thanksgiving Break | Wednesday November 23 – Friday November 25, 2022 |
| Fall 2022 Semester (Term II) Classes ends | Sunday, December 11, 2022 |
| Grades Due (Term II) | Wednesday, December 14, 2022 |
| Winter Break | Monday, December 12 – Monday, January 2, 2023 |

Master of Science in Health Informatics (Online MSHI)

Fall 2021 Semester Academic Calendar

| | |
|--|--|
| Fall 2021 Semester (Term I) Classes begins | Monday, August 23, 2021 |
| Add/Drop | Monday, August 23 – Thursday, August 26, 2021 |
| Labor Day Holiday | Monday, September 6, 2021 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, September 20, 2021 |
| Fall 2020 Semester (Term I) Classes ends | Sunday, October 17, 2021 |
| Grades Due (Term I) | Wednesday, October 20, 2021 |
| Fall 2021 Semester (Term II) Classes begins | Monday, October 18, 2021 |
| Add/Drop | Monday, October 18 – Thursday, October 21, 2021 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, November 15, 2021 |
| Thanksgiving Break | Wednesday November 24 – Friday November 26, 2021 |
| Fall 2021 Semester (Term II) Classes ends | Sunday, December 12, 2021 |
| Grades Due (Term II) | Wednesday, December 15, 2021 |
| Winter Break | Monday, December 13 – Monday, January 3, 2022 |

Master of Science in Health Informatics (Online MSHI)

| Master of Science in Health Informatics (Online MSHI) | |
|--|---|
| Spring 2022 Semester Ac- ademic Calendar | |
| Spring 2022 Semester (Term I) Classes begins | Monday, January 3, 2022 |
| Add/Drop | Monday, January 3 – Thursday, January 6, 2022 |
| M. L. King Jr. Holiday | Monday, January 17, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, January 31, 2022 |
| Spring 2022 Semester (Term I) Classes ends | Sunday, February 27, 2022 |
| Grades Due (Term I) | Wednesday, March 9, 2022 |
| Spring 2022 Semester (Term II) Classes begins | Monday, February 28, 2022 |
| Add/Drop | Monday, February 28 – Thursday, March 3, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, March 28, 2022 |
| Good Friday Holiday | Friday, April 15, 2022 |
| Spring 2022 Semester (Term II) Classes ends | Sunday, April 24, 2022 |
| Grades Due | Wednesday, April 27, 2022 |
| Spring Break | Monday April 25 – Friday, April 29, 2022 |
| Summer 2022 Semester Academic Calendar | |
| Summer 2022 Semester (Term I) Classes begins | Monday, May 2, 2022 |
| Add/Drop | Monday, May 2 – Thursday, May 5, 2022 |
| Memorial Day Holiday | Monday, May 30, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Tuesday, May 31, 2022 |
| Summer 2022 Semester (Term I) Classes ends | Sunday, June 26, 2022 |
| Grades Due (Term I) | Wednesday, June 29, 2022 |
| Summer 2022 Semester (Term II) Classes begins | Monday, June 27, 2022 |
| Add/Drop | Monday, June 27 – Thursday, June 30, 2022 |
| Independence Day Holiday | Monday, July 4, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, July 25, 2022 |
| Summer 2022 Semester (Term II) Classes ends | Sunday, August 21, 2022 |
| Grades Due (Term II) | Wednesday, August 24, 2022 |

Master of Science in Health Informatics (Online MSHI)

Master of Science in Health Informatics (Online MSHI)

Fall 2022 Semester Academic Calendar

| | |
|--|--|
| Fall 2022 Semester (Term I) Classes begins | Monday, August 22, 2022 |
| Add/Drop | Monday, August 22 – Thursday, August 25, 2022 |
| Labor Day Holiday | Monday, September 5, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term I) | Monday, September 19, 2022 |
| Fall 2022 Semester (Term I) Classes ends | Sunday, October 16, 2022 |
| Grades Due (Term I) | Wednesday, October 19, 2022 |
| Fall 2022 Semester (Term II) Classes begins | Monday, October 17, 2022 |
| Add/Drop | Monday, October 17 – Thursday, October 20, 2022 |
| Last Day to Withdraw from Class with a “W” Grade (Term II) | Monday, November 14, 2022 |
| Thanksgiving Break | Wednesday November 23 – Friday November 25, 2022 |
| Fall 2022 Semester (Term II) Classes ends | Sunday, December 11, 2022 |
| Grades Due (Term II) | Wednesday, December 14, 2022 |
| Winter Break | Monday, December 12 – Monday, January 2, 2023 |

GRADUATE EDUCATION IN PUBLIC HEALTH (GEPH) Master of Public Health (MPH)

GRADUATE EDUCATION IN PUBLIC HEALTH (GEPH) MASTER OF PUBLIC HEALTH (MPH) 2021-2022 Academic Calendar

Fall 2021 Semester

| | |
|---|--|
| New Student Orientation (Welcome Session Fri.6, 8:30 am) | Thurs. – Fri. Aug. 5 - 5, 2021 |
| Fall 2021 Semester Classes begins | Mon. Aug. 9, 2020 |
| Drop/Add Period | Mon. – Fri. Aug. 9 – 13, 2020 |
| Labor Day Holiday | Mon. Sept. 6, 2021 |
| Constitution Day | Fri. Sept. 17, 2021 |
| Fall Convocation, White Coat & Pinning Ceremony | Fri. Sept. 17, 2021 |
| Study Period | Fri. Sept. 24, 2021 |
| Mid-Semester Exams | Mon. Sept. 27 - Fri. Oct. 1, 2021 |
| Application for Graduation Deadline (December 2020 Graduates) | Fri. Oct. 8, 2021 |
| Fall Break (MPH Students Only) | Mon. – Fri. Oct 25 - 29, 2021 |
| Last Day to Withdraw from a Course with a “W” Grade | Fri. Oct. 29, 2021 |
| Registration (Spring 2021 Semester – continuing students) | Mon. Nov. 15, 2020 – Fri. Jan. 7, 2022 |
| Cross Registration/ARCHE Deadline (Spring Semester 2022) | Mon. Nov. 8, 2021 |
| Last Day of Classes and Study Period | Tues. Nov. 23, 2021 |
| Thanksgiving Break | Wed. Nov. 24 – Sun. Nov. 28, 2021 |
| Final Exams | Mon. Nov. 29 - Fri. Dec. 3, 2021 |
| Application for Graduation Deadline (May 2022 Graduates) | Fri. Dec. 3, 2021 |
| Grades Due in the Registrar’s Office | Fri. Dec. 3 – Wed. Dec 8, 2021 |
| Fall 2021 Semester Ends | Fri. Dec 10, 2021 |
| Winter Break | Sat. Dec. 11, 2021 – Sun. Jan. 2, 2022 |
| December 2021 Commencement | Dec. 17, 2021 (3rd Friday in December) |
| December 2021 Conferral Degree Date | Dec. 17, 2021 |

Spring 2022 Semester Academic Calendar

| | |
|---|---|
| New Year’s Holidays | Thurs. Dec. 31, 2021 - Sun. Jan 2, 2022 |
| Spring 2022 Semester Classes begins | Mon. Jan. 10, 2022 |
| Drop/Add Period | Mon. – Fri. Jan. 10 – 14, 2022 |
| M. L. King, Jr. Holiday | Mon. Jan. 17, 2022 |
| Study Period | Fri. Feb. 25, 2022 |
| Mid-Semester Exams | Mon. – Fri. Feb. 28 – Mar. 4, 2022 |
| Spring Break | Mon. – Sun. Mar. 7 - 11, 2022 |
| Last Day to Withdraw from a Course with a “W” Grade | Thurs. Mar. 31, 2022 |
| Good Friday Holiday | Fri. Apr. 15, 2022 |
| Registration (Fall 2022 Semester – continuing students) | Mon. Apr. 18 – Fri. Aug. 5, 2022 |
| Last Day of Classes | Thurs. Apr. 22, 2022 |
| Final Exams | Mon. – Fri. Apr. 25 - 29, 2022 |
| Completion date (May 2022 Graduates) | Wed. May 4, 2022 |
| Grades Due in the Registrar’s Office | Fri. Apr. 29 - Wed. May 4, 2022 |
| Spring 2022 Semester Ends | Fri. May 6, 2022 |
| Commencement Rehearsal (12 Noon) | Wed. May 18, 2022 |
| Class Day Program | Fri. May 20, 2022 |
| Commencement | Sat. May 21, 2022 (3rd Saturday in May) |
| Spring 2022 Conferral Degree Date | May 21, 2022 |

PHYSICIAN ASSISTANT STUDIES (PAS)

Master of Science in Physician Assistant Studies (MSPAS)

2019-2021 Academic Year (Class of 2021)

Class of 2021 (Year One)

Summer 2019 Semester

| | |
|------------------------------------|----------------------------|
| New Student Orientation | Mon Jun 3 - Fri Jun 7 2019 |
| Summer 2019 Semester Classes Begin | Mon Jun 10 2019 |
| Holiday | Jul 4 2019 |
| Summer 2019 Semester Classes End | Fri Aug 16 2019 |
| Summer Break | Mon Aug 19 - Aug 23 2019 |

Fall 2019 Semester

| | |
|----------------------------------|-----------------------------------|
| Fall 2019 Semester Classes Begin | Mon Aug 26 2019 |
| Labor Day | Mon Sep 2 2019 |
| Fall Convocation/White Coat | Fri Sep 20 2019 |
| Thanksgiving Break | Wed Nov 27 - Fri Nov 29 2019 |
| Fall 2019 Semester Classes End | Fri Dec 20 2019 |
| Winter Break | Mon Dec 23 2019 - Fri Jan 10 2020 |

Spring 2020 Semester

| | |
|------------------------------------|--------------------|
| Spring 2020 Semester Begins | Mon Jan 6, 2020 |
| Spring 2020 Semester Classes Begin | Mon Jan 13 2020 |
| MLK Holiday | Mon Jan 20, 2020 |
| Research Day | Wed Feb 12 2020 |
| Good Friday Holiday | Fri Apr 10 2020 |
| Spring Break | Mon Apr 13-17 2020 |
| Spring 2020 Semester Classes End | Fri May 8 2020 |

Class of 2021 (Year Two)

Summer 2020 Semester

| | |
|------------------------------------|------------------------------------|
| Summer 2020 Semester Classes Begin | Mon May 11 2020 |
| Memorial Day Holiday | Mon May 25 2020 |
| Summer Mini Break | Thurs June 18-Friday June 19, 2020 |
| Summer 2020 Semester Classes End | Fri Jul 24 2020 |
| Pre-Clinical Exam Week/Test Prep | Mon Jul 27 - 31 2020 |
| Summer Break | Mon Aug 3 - Aug 21 2020 |

Fall 2020 Semester

| | |
|---------------------------|--|
| Fall 2020 Semester Begins | Mon Aug 24 2020 |
| SCPE Orientation | Mon Aug 24 - Fri Aug 28 2020 |
| SCPEs Begin | Mon Aug 31 2020 |
| SCPE #1 | Mon Aug 31 - Fri Sep 25 2020 |
| Labor Day | Follow closure schedule of clinical site |
| SCPE #2 | Mon Sept 28 - Fri Oct 23 2020 |
| SCPE #3 | Mon Oct 26 - Fri Nov 20 2020 |
| SCPE #4 | Mon Nov 23 - Fri Dec. 18 2020 |
| Thanksgiving Break | Follow closure schedule of clinical site |
| Fall 2020 Semester Ends | Fri Dec 18 2020 |
| Winter Break | Mon Dec 21 2020 - Fri Jan 1 2021 |

PHYSICIAN ASSISTANT STUDIES (MSPAS)

Master of Science in Physician Assistant Studies (MSPAS)

2019-2021 Academic Year (Class of 2021)

Class of 2021 (Year Two)

Spring 2021 Semester

| | |
|-----------------------------|--|
| Spring 2021 Semester Begins | Mon Jan 4 2021 |
| Capstone | Mon Jan 4 - Fri Jan 29 2021 |
| MLK Day | Follow closure schedule of clinical site |
| SCPE #5 | Mon Feb 1 - Fri Feb 26 2021 |
| SCPE #6 | Mon Mar 1 - Fri Mar 26 2021 |
| SCPE #7 | Mon Mar 29 - Fri Apr 23 2021 |
| SCPE #8 | Mon Apr 26 - Fri May 21 2021 |
| Spring Semester ends | Fri May 21 2021 |

Class of 2021 (Year Three)

Summer 2021 Semester

| | |
|---|--|
| Summer 2021 Semester Begins | Mon May 24 2021 |
| SCPE #9 | Mon May 24 - Fri Jun 18 2021 |
| Memorial Day | Follow closure schedule of clinical site |
| SCPE #10 | Mon Jun 21 - Jul 16 2021 |
| Independence Day | Follow closure schedule of clinical site |
| Summer Break | Mon Jul 19 - Fri Jul 23 2021 |
| Summative Exam (Prep) | Mon Jul 26 - Fri Jul. 30 2021 |
| Summative Exam | Mon Aug 2 – Fri Aug 6 2020 |
| PANCE Prep | Mon Aug 9 - Fri Aug 20 2021 |
| Capstone Presentations and Exiting Activities | Mon Aug 23 - Fri. Aug 27 2021 |
| Conferral Degree Date | September 17, 2021 (3 rd Friday in September) |
| Commencement | December 17, 2021 (3 rd Friday in December) |

2020-2022 Academic Year (Class of 2022)

Class of 2022 (Year One)

Summer 2020 Semester

| | |
|------------------------------------|----------------------------|
| New Student Orientation | Mon Jun 1 - Fri Jun 5 2020 |
| Summer 2020 Semester Classes Begin | Mon Jun 8, 2020 |
| Independence Day Holiday | Fri Jul 3 2020 |
| Summer 2020 Semester Classes End | Fri Aug 14 2020 |
| Summer Break | Mon Aug 17 - Aug 21 2020 |

Fall 2020 Semester

| | |
|----------------------------------|----------------------------------|
| Fall 2020 Semester Classes Begin | Mon Aug 24 2020 |
| Labor Day | Mon Sep 7 2020 |
| Fall convocation/White Coat | Fri Sep 18 2020 |
| Thanksgiving Break | Wed Nov 25 - Fri Nov 27 2020 |
| Fall 2020 Semester Classes End | Fri Dec 18 2020 |
| Winter Break | Mon Dec 20 2020- Fri Jan. 8 2021 |

PHYSICIAN ASSISTANT STUDIES (MSPAS)

Master of Science in Physician Assistant Studies (MSPAS)

2020-2022 Academic Year (Class of 2022)

Class of 2022 (Year One)

Spring 2021 Semester

| | |
|------------------------------------|-------------------|
| Spring 2021 Semester Begins | Mon Jan 4, 2021 |
| Spring 2021 Semester Classes Begin | Mon Jan 11 2021 |
| MLK Holiday | Mon Jan 18 2021 |
| Research Day | Feb 10, 2021 |
| Spring Break | March 15-19, 2021 |
| Good Friday Holiday | Fri Apr 2 2021 |
| Spring 2021 Semester Classes End | Fri May 7 2021 |
| Spring Semester ends | Fri May 21 2021 |

Class of 2022 (Year Two)

Summer 2021 Semester

| | |
|------------------------------------|-------------------------------|
| Summer 2021 Semester Classes Begin | Mon May 24, 2021 |
| Memorial Day Holiday | Mon May 31, 2021 |
| Summer Mini Break | Thurs July 1-Fri July 2, 2021 |
| Independence Day | Observed Mon July 5, 2021 |
| Summer 2021 Semester Classes End | Fri Jul 30 2021 |
| Pre-Clinical Exam Week/Test Prep | Mon Aug 2-Aug 6, 2021 |
| Summer Break | Mon Aug 9-Aug 20 2021 |

Fall 2021 Semester

| | |
|--|--|
| PANCE Prep Week | Mon Aug 23-Fri Aug 27, 2021 |
| Fall 2021 Semester Begins | Mon Aug 30, 2021 |
| SCPE Orientation | Mon Aug 30-Fri Sept 3, 2021 |
| SCPEs Begin | Mon Sept 6, 2021 |
| SCPE #1 | Mon Sept 6- Fri Oct 1, 2021 |
| Labor Day | Follow closure schedule of clinical site |
| SCPE #2 | Mon Oct 4 - Fri Oct 29 2021 |
| SCPE #3>(*Modified for Thanksgiving Break) | Mon Nov 1-Nov 29, 2021 |
| SCPE #4>(*Modified for Winter Break) | Tues Nov 30-Mon Jan 3, 2022 |
| Thanksgiving Break | Follow closure schedule of clinical site |
| Fall 2021 Semester Ends | Fri Dec 17, 2021 |
| Winter Break | Follow closure schedule of clinical site |

Spring 2022 Semester

| | |
|-----------------------------|--|
| Spring 2022 Semester Begins | Mon Jan 3, 2022 |
| Capstone | Tues Jan 4- Fri Jan 28, 2022 |
| MLK Day | Follow closure schedule of clinical site |
| SCPE #5 | Mon Jan 31-Fri Feb 25, 2022 |
| SCPE #6 | Mon Feb 28-Fri Mar 25, 2022 |
| SCPE #7 | Mon Mar 28-Fri Apr 22, 2022 |
| SCPE #8 | Mon Apr 25-Fri May 20, 2022 |
| Spring Semester ends | Fri May 6, 2022 |

PHYSICIAN ASSISTANT STUDIES (MSPAS)

| Master of Science in Physician Assistant Studies (MSPAS) | |
|---|--|
| 2020-2022 Academic Year (Class of 2022) | |
| Class of 2022 (Year Three) | |
| Summer 2022 Semester | |
| Summer 2022 Semester Begins | Mon May 23 2022 |
| SCPE #9 | Mon May 23-Fri Jun 17, 2022 |
| Memorial Day | Follow closure schedule of clinical site |
| SCPE #10 | Mon Jun 20-Fri Jul 15, 2022 |
| Independence Day | Follow closure schedule of clinical site |
| Summer Break | TBD |
| Summative Exams | TBD |
| PANCE Prep | TBD |
| Capstone Presentations and Exiting Activities | TBD |
| End of Program Celebration Class of 2021 | TBD |
| 2021-2023 Academic Year (Class of 2023) | |
| Class of 2023 (Year One) | |
| Summer 2021 Semester | |
| New Student Orientation | Tue Jun 1 – Fri Jun 4, 2021 |
| New Student Opening Session @ 9am | Wed Jun 2, 2021 |
| Summer 2021 Semester Classes Begin | Mon Jun 7, 2021 |
| Independence Day | Observed July 5, 2021 |
| Summer 2021 Semester Classes End | Fri Aug 20, 2021 |
| Summer Break | Mon Aug 23-Aug 27 2021 |
| Fall 2021 Semester | |
| Fall 2021 Semester Classes Begin | Mon Aug 30, 2021 |
| Labor Day | Mon Sep 6, 2021 |
| Fall Convocation/White Coat | Fri Sep 17 2021 |
| Thanksgiving Break | Wed Nov 24 - Fri Nov 26 2021 |
| Fall 2021 Semester Classes End | Fri Dec 17, 2021 |
| Winter Break | Mon Dec 20, 2021 - Fri Jan 7, 2022 |
| Spring 2022 Semester | |
| Spring 2022 Semester Begins | Mon Jan 3, 2022 |
| Spring 2022 Semester Classes Begin | Mon Jan 10 2022 |
| MLK Holiday | Mon Jan 17, 2022 |
| Research Day | Wed Feb 9, 2022 |
| Spring Break | Mon Mar 14-Fri Mar 18 2022 |
| Good Friday Holiday | Fri Apr 15, 2022 |
| Spring 2022 Semester Classes End | Fri May 6, 2022 |

PHYSICIAN ASSISTANT STUDIES (MSPAS)

2021-2023 Academic Year (Class of 2023)

Class of 2023 (Year Two)

Summer 2022 Semester

| | |
|------------------------------------|--------------------------------|
| Summer 2022 Semester Classes Begin | |
| Memorial Day Holiday | Mon May 30, 2022 |
| Summer Mini Break | Thurs June 30-Fri July 1, 2022 |
| Independence Day | Observed Mon July 4, 2022 |
| Summer 2022 Semester Classes End | Fri July 29, 2022 |
| Pre-Clinical Exam Week/Test Prep | Mon Aug 1-Fri Aug 5, 2022 |
| Summer Break | Mon Aug 8 - Fri Aug 19, 2022 |

Fall 2022 Semester

| | |
|--|--|
| PANCE Prep Week | Mon Aug 22- Fri Aug 26, 2022 |
| Fall 2022 Semester Begins | Mon Aug 29, 2022 |
| SCPE Orientation | Mon Aug 29-Fri Sept 2, 2022 |
| SCPEs Begin | Mon Sept 5, 2022 |
| SCPE #1 | TBD |
| Labor Day | Follow closure schedule of clinical site |
| SCPE #2 | TBD |
| SCPE #3*(*Modified for Thanksgiving Break) | TBD |
| SCPE #4*(*Modified for Winter Break) | TBD |
| Thanksgiving Break | Follow closure schedule of clinical site |
| Fall 2021 Semester Ends | Fri Dec 16, 2022 |
| Winter Break | Follow closure schedule of clinical site |

Spring 2023 Semester

| | |
|-----------------------------|--|
| Spring 2022 Semester Begins | Mon Jan 3, 2022 |
| Capstone | Tues Jan 4- Fri Jan 28, 2022 |
| MLK Day | Follow closure schedule of clinical site |
| SCPE #5 | TBD |
| SCPE #6 | TBD |
| SCPE #7 | TBD |
| SCPE #8 | TBD |
| Spring Semester ends | Fri May 5, 2023 |

Class of 2023 (Year Three)

Summer 2023 Semester

| | |
|---|--|
| Summer 2023 Semester Begins | Mon May 22, 2023 |
| SCPE #9 | TBD |
| Memorial Day | Follow closure schedule of clinical site |
| SCPE #10 | TBD |
| Independence Day | Follow closure schedule of clinical site |
| Summer Break | TBD |
| Summative Exams | TBD |
| PANCE Prep | TBD |
| Capstone Presentations and Exiting Activities | TBD |
| End of Program Celebration Class of 2023 | TBD |

Morehouse School Of Medicine

| Accrediting Organizations | First Accredited | Last Reaffirmed | Next Reaffirmation |
|--|------------------|-----------------|--------------------|
| *Southern Association of Colleges and Schools Commission on Colleges (SACS COC) | | | |
| Medical Education (MD) Philosophy (PhD) in Biomedical Science Master of Public Health Program (MPH) Master of Biomedical Research (MSBR) Master of Science in Biomedical Technology (MSBmT) Master of Science in Biotechnology (MSBT) (Online) Master of Science in Medical Sciences (MSMS) Master of Science in Neuroscience Executive Master of Public Health (eMPH) (Online) Master of Science in Physician Assistant Studies (MS-PAS) | 1986 | 2011 | 2021 |
| Liaison Committee on Medical Education (LCME) | | | |
| Medical Education | 1985 | 2013 | 2021 |
| Council on Education for Public Health (CEPH) | | | |
| Master of Public Health Program | 1999 | 2014 | 2022 |
| Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) | | | |
| Master in Science in Physician Assistant Studies | *2019 | **2023 | |
| Joint Commission on Accreditation of Healthcare Organizations (JCAHO) | | | |
| Clinical Research Center | 1997 | 2018 | 2021 |
| Accreditation Council for Graduate Medical Education (ACGME) | | | |
| Graduate Medical Education Institutional Review (GME/IR) | 1993 | 2020 | 2021 |
| Child & Adolescent Psychiatry | 2019 | 2019 | 2021 |
| Cardiovascular Disease Fellowship | 2016 | 2020 | 2021 |
| Family Medicine | 1981 | 2020 | 2021 |
| Internal Medicine | 1991 | 2020 | 2021 |
| Obstetrics and Gynecology | 1996 | 2020 | 2021 |
| Pediatrics | 2000 | 2020 | 2021 |
| Public Health and Preventive Medicine | 1986 | 2020 | 2021 |
| Psychiatry | 1990 | 2020 | 2021 |
| Pulmonary Disease & Critical Care Medicine | 2017 | 2018 | 2021 |
| Surgery | 1993 | 2020 | 2021 |
| Association for Assessment & Accreditation of Laboratory Animal Care (AAALAC) | | | |
| Center for Laboratory Animal Resources | 2005 | 2017 | 2020 |

ACCREDITATION

GRADUATE EDUCATION IN PUBLIC HEALTH (GEPH)

| | | | |
|--|------|------|------|
| Accreditation Council for Continuing Medical Education | | | |
| Continuing Medical Education | 1986 | 2013 | 2018 |

*Accreditation-Provisional Status
 **Anticipated Accreditation-Continued Status



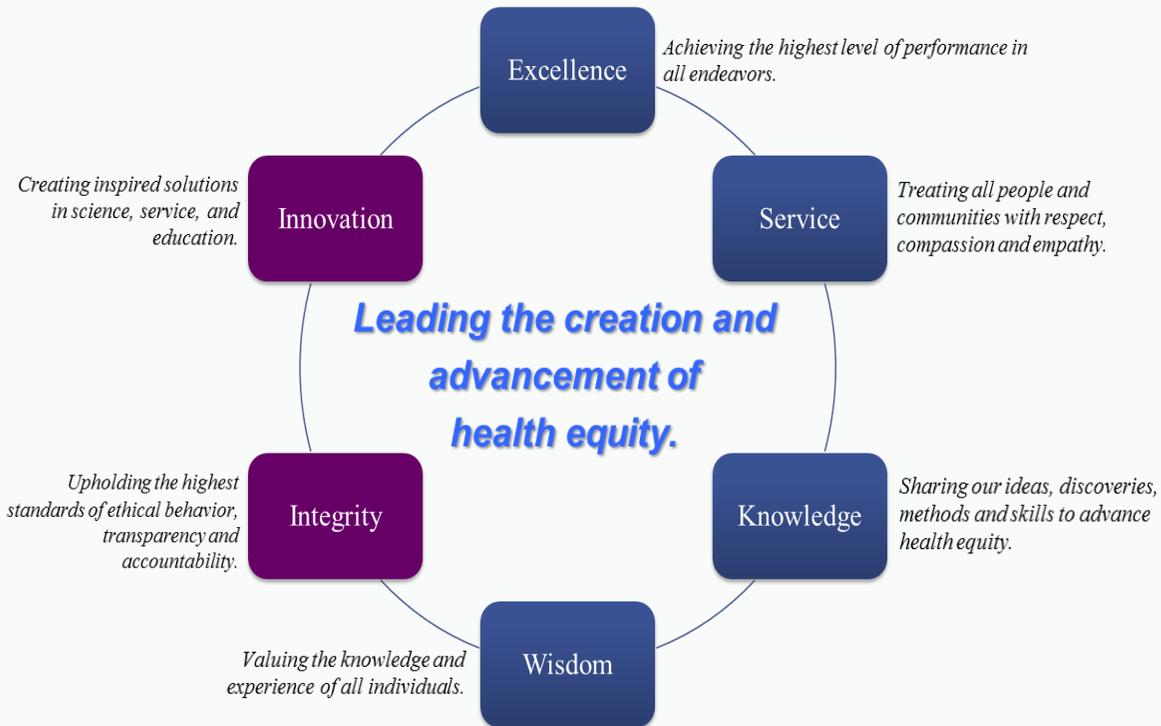
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ACCREDITATION

Morehouse School Of Medicine

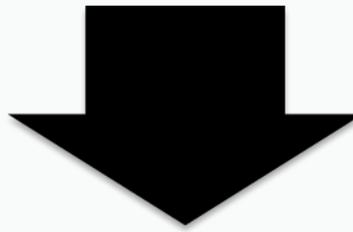
CORE VALUES

Guiding Organizational Behavior and Shaping the Future



CORE VALUES

**Leading the creation
and advancement of health
equity.**



Vision Imperatives

Translating Discovery into
Health Equity

Building Bridges Between
Healthcare and Health

Preparing Future Health
Learners and Leaders

Morehouse School of Medicine

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| Senior Vice President, Institutional Advancement | Harvey Green |
| Associate Vice President of Finance and Controller | Katherine Napier, EDB, CPA, CIA, CISA, MBA |
| Senior Associate Dean, Educational Affairs | Martha Elks, MD, PhD |
| Senior Associate Dean, Research Affairs and Director of MSBT | James Lillard, PhD |
| Associate Dean, Community Engagement | Tabia Akintobi, PhD, MPH |
| Acting Associate Dean, Faculty Affairs and Development | Walter Conwell, MD |
| Associate Dean, Educational Outreach and Health Careers and Director of Master of Science in Medical Sciences | Rita B. Finley, PhD |
| Associate Dean, Admissions | Franklyn Geary, Jr., MD, FACOG |
| Associate Dean, Graduate Medical Education and Designated Institutional Official (DIO) | Chinedu Ivonye, MD, FCAP |
| Associate Dean, Public Health Education | Stephanie Miles-Richardson, DVM, PhD |
| Associate Dean, Graduate Studies | Douglas F. Paulsen, PhD |
| Associate Dean, Admissions and Student Affairs | Kennie Shepherd, PhD |
| Associate Dean, Academic Programs & Affiliations and Undergraduate Medical Education | Erica R. H. Sutton, MD, FACS |
| Executive Director, Government Affairs; Director of Satcher Health Leadership Institute | Daniel Dawes, J.D |
| Founding Physician Assistant Program Director | Pangela Dawson, PhD, PA-C |
| Director, Bachelor of Science/Master of Science in Neuroscience | Morris Benveniste, PhD |
| Director, Public Safety and Emergency Preparedness and Chief of Police | Joseph R. Chevalier, Jr. |
| Director, Counseling Services | Shawn Garrison, PhD |
| Director, Student Fiscal Affairs | Cynthia Handy |
| Director, Student Admissions | Shawntel Jordon, PhD |
| Director, Master of Science in Clinical Research | Alexander Quarshie, MBChB, MS |
| Director, Master of Science in Biomedical Research | Karen Russell Randall, PhD |
| Director, M. Delmar Edwards Library | Joe Swanson, Jr., MSLS |
| Registrar and Director of Student Information Systems | Angela Freeman, MASS |
| General Counsel | Michael Rambert, JD |
| Chief Information Officer and Director | Reginald Brinson, EMBA |
| Chief Innovation Officer | Taya Jackson Scott, EdD |
| Interim Chief Compliance Officer | Alecia Bell, JD |

Morehouse School of Medicine

THE MISSION

We exist to:

- ◆ *Improve the health and well-being of individuals and communities;*
- ◆ *Increase the diversity of the health professional and scientific workforce;*
- ◆ *Address primary health care needs through programs in education, research and service;*

With emphasis on people of color and the underserved urban and rural populations in Georgia, the nation and the world.



History

Established in 1975 at Morehouse College as a two-year medical education program with clinical training affiliations with several established medical schools for awarding the MD degree, Morehouse School of Medicine (MSM) separated from Morehouse College in 1981 as an independently chartered institution. Over the ensuing years, MSM has evolved into one of the nation's leading community-based, primary care oriented, health sciences institutions, offering graduate degrees in: Biomedical Sciences (PhD)(established 1992) Public Health (MPH.) (established 1994), Clinical Research (MSCR) (established 2002),Biomedical Research (MSBR), Biomedical Technology (MSBT), Bachelor of Science/Master of Science in Neuroscience (BS/MSNS), and Master of Science in Medical Sciences (M.S.M.S.) degrees.

MSM has seven accredited residency programs: Family Medicine (1981), Preventive Medicine (1986), Internal Medicine (1991), Psychiatry (1991), Surgery (1993), Obstetrics and Gynecology (1997), and Pediatrics (2000). The majority of MSM patient care and clinical training occurs at Grady Memorial Hospital, one of the largest public hospitals in the Southeast. The school's research stature and reputation have grown exponentially over the past decade.

In 2008, MSM ranked number three among the nation's community-based medical schools in research funding from the National Institutes of Health and among Georgia's four medical schools, MSM ranks number two. Moreover, MSM ranks in the top five of U.S. medical school with five or more Institute of Medicine (IOM) members, based on the ratio of the IOM members faculty size.

In 2010, MSM was recognized for being # 1 medical schools in the country among social missions, which represented a higher percentage of graduates who practice primary care, work in health professional shortage areas, and are underrepresented minorities.

In 2011, MSM began a five-year plan to expand the MD entering class size to 100 from 56. In 2017, an entering class of 100 students was welcomed. In order to "grow our own", MSM established the Master of Science in Medical Sciences degree in 2012 to help bridge capable college graduates into health professions education. In 2016, we were again recognized as #1 in social mission by the Josiah Macy Foundation. In 2018, we implemented a fully online Master of Science in Biotechnology degree (MSBT) and developed a hybrid executive MPH.

History

With its vision of “leading the creation of health equity”, MSM is nationally recognized as a leading voice in addressing gaps in healthcare outcomes, advocacy, and “creating the doctors and health professionals that the nation needs.” MSM is rooted in our community, and we are of the community and with the community as we work to make a difference in the world. MSM faculty, staff, students, and leadership collaborate widely and work innovatively to live out our mission in all that we do.

*Morehouse School of Medicine is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number (404.679.4501) to award the degrees Doctor of Medicine (MD), Doctor of Philosophy (PhD) in Biomedical Sciences, the Master of Public Health (MPH.), the Master of Science in Clinical Research (MSCR), and the Master of Physician Assistant (PA).

Facilities and Other Resources

GENERAL FACILITIES AND AFFILIATIONS

Most of the instruction in the preclinical courses for the MD program at MSM occurs in a 91,000 square foot facility that was constructed in 1982. The Hugh M. Gloster Basic Medical Sciences Building contains classrooms and laboratories, space for administration, faculty offices, an animal facility, and faculty research laboratories. There are 100 student capacity lecture halls, two multidisciplinary teaching laboratories (over 3,500 square feet for each) and a gross lab in this building. In 2017, it was augmented by the Billye Suber Allen Student Pavilion that provides over 10,000 square feet of student study and recreation space. In 2018, the Gloster educational building was fully remodeled to provide state of the art learning technology and five large flexible format classrooms and additional study, carrel rooms, and conference spaces. The Medical Education Building that is attached to the Hugh M. Gloster Basic Medical Sciences Building was completed in 1987 and renovated in 2010. The facility provided faculty office and research space and the library.

The Morehouse School of Medicine M. Delmar Edwards Library, physically located on the first floor of the Medical Education Building (MEB), provides information and learning resources for students, residents, faculty, staff, researchers, and the community. The Library houses open stacks of over 80,000 book and journal volumes, has areas for group and individual study, supports 24-hour Internet access to over 250 full-text electronic books and over 6,000 full text electronic journals, and is open 24/7.

In 1996, the School opened and dedicated a Multi-Disciplinary Research Center. It houses the Clinical Research Center, the Neuroscience Institute, and National Aeronautics and Space Administration programs. A research wing of the Medical Education Building opened in 2000 and houses the Cardiovascular Research Institute, Department of Pharmacology, Office of Sponsored Research Administration and the Division of Information Technology.

The **National Center for Primary Care (NCPC)** opened in 2002. The NCPC is a 106,000 square foot building on the campus of Morehouse School of Medicine, in the Atlanta University Center. The NCPC showcases a conference center with a 570-seat auditorium, large seminar room, small break-out rooms, and cafeteria for primary care and public health conferences. The building is the administration headquarters for NCPC leaders, researchers, and programs, and also home of the Masters in Public Health (MPH) Program, Preventive Medicine Residency Program, Faculty Development Program, and Center of Excellence on Health Disparities.

The **Clinical Skills and Simulation Center** is a state-of-the-art handicapped-accessible facility located on the first floor of the National Center for Primary Care Building. The

Facilities and Other Resources

center has over 4,800 square feet of space that is used as a laboratory for demonstrating, learning, and instructing clinical skills, communication skills, as well as diagnostic and procedural skills to students and practicing physicians. It contains 11 fully equipped exam rooms with wall-mounted cameras and network laptops. There is one large multifunctional room equipped with a 60-inch flat screen monitor and twelve all-in-one computers with monitoring capabilities. It is within proximity to two sub-dividable 45-person classrooms and one large multi-purpose room (40-80 depending on configuration/purpose).

There is a simulation room (with iStan, Peditasim, Baby Corey, and Lucina high fidelity simulators) as well as simulators for blood-drawing, IV insertion, LP, thoracentesis, paracentesis, suturing, pelvic exams, breast exams, prostate/GU exams, and similar equipment. There is a scrub sink and practice space for sterile scrub, donning of PPE, and other similar activities. This space is a key resource for the MD and PA students as well as for pipeline programs, residents, and physician training.

The Morehouse School of Medicine has affiliations with the following Atlanta hospitals for major clinical teaching and research: Grady Memorial Hospital and Children's Healthcare of Atlanta at Hughes Spalding Hospital and at Scottish Rite Hospital, and the Atlanta VA. There also exists an affiliation with Ridgeview Institute and Georgia Regional Hospital-Atlanta.

Clinical instruction for medical students, physician assistant students, and for residents is conducted at affiliated facilities. Third-year students do the major portion of their clinical clerkships at Grady Memorial Hospital, full-service hospital committed to offer medical services to the underserved including governmentally-sponsored populations. The hospital has over 800 beds and over 200 outpatient clinics (including community-based clinics). In a given year, there are over 40,000 admissions and over 750,000 outpatient encounters. Through agreements with Fulton-DeKalb Hospital Authority, Morehouse School of Medicine and Emory University School of Medicine share the responsibility for patient care and MSM is responsible for the education of its medical students and residents at Grady Memorial Hospital.

Third-year psychiatry instruction and the psychiatry residency training program occur in a number of clinical facilities throughout the Atlanta area. The facilities include: Georgia Regional Hospital, Ridgeview Institute, West Fulton Community Mental Health Center, Grady Memorial Hospital, the Tuskegee Veterans Medical Center, and the Atlanta Medical Center. The Family Medicine Residency, at the MMA Comprehensive Family Healthcare in East Point, Georgia, is located approximately 10 miles from the medical school. Third and fourth-year instruction in Family Medicine occurs at this facility.

Facilities and Other Resources

Morehouse Healthcare (MH), Inc. is a separately incorporated faculty practice plan, staffed by MSM clinical faculty. It currently operates from three sites. The Family Practice Clinic operates as a branch of MH, and provides the patient-base for the Family Practice Residency program at the MH Comprehensive Family Healthcare Center in East Point, Georgia. At Grady Memorial Hospital, in-patient and out-patient care are provided on departmental services and residency programs in Medicine, OB/GYN and Surgery. The major facility for in-patient Pediatrics care is Children's Healthcare of Atlanta at Hughes Spalding Hospital. Private patients of our faculty receive hospital care at several Atlanta area hospitals. Also, there is a faculty practice site located at Howell Mill Road.

An essential part of MSM's educational mission is providing our medical students, graduate students and clinical trainees with faculty role models who are pursuing state-of-the-art research. Moreover, it is our educational philosophy that health care facilities that care for the underserved must play a leadership role in translational research that brings advances in basic science and clinical medicine to these special populations. We are in the top quarter of newer medical schools in total NIH research funds and at the 80th percentile in funds per faculty member in the basic science departments

Our research activities have resulted in the establishment of major research centers/institutes:

- The **Cardiovascular Research Institute (CVRI)** was established in July 1999 as a Center of Research Excellence under the direction of Dr. Herman Taylor. The CVRI is funded in part by a grant from the NIH National Center for Minority Health and Health Disparities and the NIH Heart, Lung and Blood Institute program to develop cardiovascular research centers at Historically Black Colleges and Universities. The Institute is a multi-investigator, multi-disciplinary organization that transcends traditional academic departmental structures to focus on advancing cardiovascular research and education.
- Established in 1995, the **Morehouse School of Medicine Neuroscience Institute (MSMNI)** has active research projects addressing the molecular biology and physiology of circadian rhythms, signal transduction and modulation in the basal ganglia, regeneration of CNS neurons, functional imaging, and neurotoxicity associated with HIV infection. The projects are supported by core facilities in imaging, molecular biology, tissue culture, and histology. Dr. Gianluca Tosini is the Director.
- The **Center of Excellence on Health Disparities (CEHD)** was formed in 2002, under the leadership of Dr. David Satcher, Director of the Center of Excellence on Health Disparities, Poussaint-Satcher-Cosby Chair in Mental Health, in response to MSM's mission to improving the health and well-being of individuals and communities; increasing the diversity of the health professional and scientific workforce; and addressing primary healthcare needs through programs in education, research, and service, with emphasis on people of color and the underserved urban and rural populations in Georgia and the nation.

Facilities and Other Resources

- Established in 2002, the **National Center for Primary Care (NCPC)** is a national resource for encouraging doctors to pursue primary care careers, for making primary care practice more effective, and for supporting primary care professionals serving in underserved areas. The mission of the National Center for Primary Care is to promote excellence in community oriented primary health care and optimal health outcomes for all Americans, with a special focus on underserved populations and on the elimination of health disparities. The NCPC team provides training for primary care practitioners, conducts practice-based research to improve health outcomes, creates protocols and tools for improving primary care effectiveness, and undertakes policy analyses focused on how to make primary care more accessible and more effective.
- The **Clinical Research Center (CRC)** was established in 1996 at Morehouse School of Medicine in order to provide the infrastructure necessary for faculty at MSM to conduct clinical research. It was the first freestanding outpatient research facility of its kind in the nation to receive accreditation by the Joint Commission on Accreditation of Health Care Organization. In addition to core resources in Biostatistics, Bio-nutrition, Analytical Laboratory, Ultrasound, Nursing and Participant Recruitment, the CRC also supports a training program leading to a Master of Science in Clinical Research. The Community Physicians' Network extends the CRC's community outreach to support community based clinical trials.

In addition to these major research centers/institutes, we also have programs that support a significant portion of our research and infrastructure efforts.

- The **Research Centers in Minority Institutions (RCMI)** program, funded continuously since 1986, provides significant support for our state-of-the-art biomedical research technology core and shared-use facilities. The MSM RCMI Program mission is to provide the infrastructure, expertise in molecular, cellular, systems, organismal, and population approaches. This will provide a foundation for understanding the healthy state in humans, and allow investigation into the cause and treatment of important health problems, focusing on those that impact underserved populations. Dr. Vincent C. Bond is the Director.

In support of the mission of MSM, the faculty has developed a wide variety of initiatives to promote the health of members of our community, state, and nation. Among these initiatives are breast and cervical cancer screening programs, the Health Promotion Resource Center, the Cancer Prevention Awareness Program, the Prevention Resource Center, and other similar programs. The Partnerships for Health Professions Education project supports an interlocking series of efforts to increase the numbers of African American applicants to medical schools including the HCOP Ambassadors MSM STEAM programs for middle school and high school students. The commitment to improving rural health-care and supporting practitioners is addressed in our Area Health Education Centers (AHEC) and Health Education and Training Centers (HETC).

Morehouse School of Medicine



TOGETHER WE ARE ON A MISSION!

Community Health & Preventive Medicine

Chairperson and
Professor:

Beverly D. Taylor, MD, FAAFP, FACPM

Professors:

Carey Bayer, EdD
Lee Caplan, MD, MPH, PhD
Alexander Crosby, MD, MPH
Tabia K. Henry Akintobi, PhD, MPH
Sonja Hutchins, MD
Mary Langley, PhD, RN, MPH,
Robert Mayberry, PhD, MPH
*Meryl McNeal, PhD
Stephanie Miles- Richardson, PhD
Mohamed Mubasher, PhD
Alexander Quarshie, MBChB, MS
Brian Rivers, PhD
*Herman Taylor, MD

Associate Professors:

Ernest A. Alema-Mensah, MS, DMin
D. Elaine Archie-Booker, EdD
Peter Baltrus, PhD
Daniel Dawes, JD
*Norberto Fas, MD
Virginia Floyd, MD
Gemechu Gerbi, PhD
Alula Hadgu, Dr. Ph
*Kisha Holden, PhD
Rhonda C. Holliday, PhD
Ifeoma Nnaji, MD
Rakale Collins Quarells, PhD
*Sarma Ramaseshu, MBBS
LeRoy Reese, PhD
Reinetta Thompson Waldrop, MSHS, DrPh
Fengxia Yan, MD
Ellen Yancey, PhD

Assistant Professors:

Oluwatoyosi Adekeye, MBBS
Sherry Crump, MD
Megan Douglas, JD
Natalie Hernandez, PhD, MPH

Community Health & Preventive Medicine

Jammie Hopkins, PhD
John Hunter, MD
Kofi Kondwani, PhD
*Kimberly Redding, MD
Desiree Rivers, PhD
Latrice Rollins, PhD
Jennifer Rooke, MD
Lekesha Tables, MD
*Arletha Williams-Livingston, PhD
M. Robina Josiah Willock, PhD

Instructors:

Mary Kidd Davis, RN, MS
Megan Douglas, JD
Carla Durham Walker, MA
Gail McCray, MA
Roland B. Welmaker, PhD
Angela Wimes, MA

Professor Emeritus:

Ronald L. Braithwaite, PhD
David Satcher, MD, PhD
Henrie M. Treadwell, PhD

Adjunct Faculty

Professors:

Paul Boumbulian, PhD
V. Ramana Dhara, MBBS, MPH
Leonard Jack, Jr., PhD
Patricia Rodney, PhD
Ruben Warren, DDS, DrPh

Associate Professors:

Ayana Buckner, MD, MPH
Elvan Daniels, MD
James Griffin, PhD
Sandra E. Ford, MD
William Jenkins, PhD, MPH, MS
Alma Jones, MD, MPH
Camara P. Jones, MD, MPH, PhD

Community Health & Preventive Medicine

Assistant Professors:

Roxanne Barrow, MD
Cassandra Bolar, PhD, MPH
Daphne Byrd, MS
Laurence Cohen, MD
John Case, EdD
Rasheeta Chandler, PhD
Neeraja Chandrasekaran, MD
Nazeera Dawood, M.B.B.S.
Gina D'Amato, MD
Michael W. Early Sr., MD
Syed R. Ehsan, MD
Katherine Erwin, DDS, MSCR
Carlos Franco, MD
Erik Gbodossou, MD
Manjushree Ghose, MBBS, MD
Alton Greene, MD, MPH
Sandy D. Maclin, Mdiv, Dmin
Nicole Martin, MD
Tamer Middleton, MD, MPH
Mae T. Morgan, MD
William A. Murrain, JD
Olugbenga Obasano, MD, PhD
Chinyere Omeogu, MD, MPH
Onyekachi Sunny Onyeabor
Eric Phillips, MD, MPH
Mona Saraiya, MD, MPH
Ruth R. Sarmiento, MD
Pradnya B. Tambe, MBBS, MPH
Ruby Thomas, MD
Raegan Tuff, PhD, MPH
Yvette Williams, MD, MPH
Walter W. Williams, MD, MPH

Instructors:

Sonia M. Alvarez-Robinson, MA
Jeneita Bell, MD, MPH
Alicia Best, PhD

Community Health & Preventive Medicine

Instructors:

Angelica Geter, Dr.Ph
Bessie Jones, MD, MS, MPH
Frederick Murphy, MSPH, MPIA
Keri L. Norris, PhD, MPH
Grace Bo Sun, MS
Talitha M. Washington, PhD
Shun Zhang, MD, MPH

*Primary appointment in another department.

Community Health & Preventive Medicine

The Department of Community Health and Preventive Medicine focuses on training primary care physicians and public health professionals, particularly minorities, for careers in medically underserved communities and on improving health in these communities. The department provides future primary care physicians with the skills to analyze scientifically the health and health-care delivery problems of minority and underserved communities, and to understand the social, cultural, environmental and economic determinants of health and disease. As a bridge between local neighborhoods and the medical school, the department engages in research and service to improve the health of the communities of which it is a part.

The mission of the department is to train health professionals to foster excellence in community based service, research, clinical and public health practice in order to promote health, improve health status and quality of care, and eliminate health disparities throughout Georgia, nationally and globally.

The goals of the Department of Community Health and Preventive Medicine are:

EDUCATION

- To conduct innovative programs of education, research, and service that focus on the special health problems of minority and other underserved populations, including those in the developing world.
- To conduct and strengthen a residency program that prepares specialists in public health and general preventive medicine.
- To advocate for community and public policy measures that improves the health of underserved communities.
- To conduct projects that will improve the health of underserved people. It is expected that all members of the department will devote a portion of their time to community service.
- To establish relationships with other community agencies and organizations with similar goals.
- To increase the number of minority public health professionals through training in the Master of Public Health Program.

Centers for research and service in the Community Health and Preventive Medicine department include the Health Promotion Resource Center, the Prevention Research Center and the Center for Community Health and Service-Learning.

Family Medicine

Chairperson
and Professor:

Folashade Omole, MD, FAAFP

Clerkship Director:

Dolapo Babalola, MD

Associate Clerkship Director:

Afolake Mobolaji, MD

Residency Director:

Riba Kelsey, MD, MSCR

Professors:

Dominic Mack, MD
Yuan-Xiang Meng, MD, PhD, MSCR
Folashade S. Omole, MBBS
*David Satcher, MD, PhD

Associate Professors:

Kitty B. Carter-Wicker, MD
Marietta Collins, PhD, MS
Anne Gaglioti, MD
Riba Kelsey, MD, MSCR
Michelle Nichols, MD, MS
Charles Sow, MD, MSCR

Assistant Professors:

Denise Bell-Carter, MD
Jennifer Fowlkes-Callins, MD
Ashley McCann, MD
Afolake Mobolaji, MD
Lawrence Powell, MD
Robert Williams, MD, MPH, FACOG
Arletha Williams-Livingston, PhD, MPH

Instructors:

Sarita Cathcart, MN, NP-C

Adjunct Faculty

Professors:

George S. Rust, MD, MPH
Harry S. Strothers III, MD, MMM, CAQ-G
Gregory Strayhorn, MD

Family Medicine

Assistant Professors:

Dereje Aboye, MD
Andrea Andrews, MD
Irene Bailey, MD
Crystal Brown, MD
Laurita M. Burley, PhD, MS
Gloria Campbell-D'Hue
Clifton Carter, MD
Curtis Cheeks, MD
Maiysha Clairborne, MD
Michelle Cooke, MD
Edward Cordovado, DC
Mary Dailey-Smith, MD
William K. Dancy, DDS, MS, MAGD
Zenobia Day, MD
David Derrer, MD
Divina Dryer, MD
Clifford Dunn, MD
Michael W. Early, MD
Charmaine Emelife, MD
Akita Evans, MD, MPH
Bryon Evans, MD
Javed Fazal, MD
Arnold Gaskin, MD
Karim B. Godamunne, MD, MBA
Laskhmi Gopireddy, MD
Nadine Halliburton-Foster, MD
Renee Haynes, MD
Johnathan Henderson, MD
Deborah Henry, MD
Shawn Holaway, PharmD
Kenneth Howard, MD
Robersteen Howard, MD
Vivian Iwu, DPM
Pamela Obi, MD
Onwura Obiekwe, MD
Kitefre O. Oboho, MD, MSc
Isioma Okobah, MD, MPH
Alexander Osowa, MD
Thomas Parrott, MD

Family Medicine

Ewaul Persaud, Jr., MD
Jamya Pittman, MD
Valens Plummer, MD
Otis S. Powell, Jr., MD
Brian Reese, MD
Ricardo Rodriguez, MD, AAFP, ABIHM
Lisa Rosa-Ré, MD
Michael Satchell, MD
Michael Solomon, MD
Emem Udo, MD
Steven Wilson, MD
Raúl Zambrano, MD

Instructors: Donna-Marie Plummer, MS, RD

*Primary appointment in another department.

The Department of Family Medicine offers programs at all levels of medical education. At the medical education level, the department collaborates in Fundamentals of Medicine 2 and is responsible for the required Clerkship in Family Medicine which allows students the opportunity to work first-hand with rural and urban physicians. A variety of senior electives are available – FM Sub-I, Integrative Medicine, Business of Medicine, Geriatrics, Reproductive Health, and Maternal Child Health. The department offers the Rural Health Senior Selective and Rural Health Senior Elective course. An accredited three-year family medicine residency program prepares the resident physicians for practice in underserved rural and urban communities.

At the postgraduate medical education level, the department sponsors continuing education conferences and seminars on primary care topics, and Faculty Development. The Department of Family Medicine prepares residents and students to provide excellent comprehensive family health care with an emphasis on underserved and minority communities. We believe in access to quality health care that stresses prevention and attention to the dignity, mental health, and spiritual health of all individuals and their families.

Medical Education

Chairperson and
Professor: Janice Herbert-Carter, MD, MGA, FACP

Professors: *Carey Bayer, EdD
Martha L. Elks, MD, PhD
Marlene MacLeish, EdD
James McCoy, MD
Meryl McNeal, PhD

Associate Professors: Danita Eatman, PhD
Mark Howse, PhD
Brenda Klement, PhD

Assistant Professors: Pangela Dawson, PhD
*Rita Finley, PhD
Yun Mei Fung, MD
Janice Hall, PhD
Angelita Howard, EdD
Jamillah McDaniel, PhD
Jinjie Zheng, PhD

Instructors: Jacqueline Ali, MSA, BBA
*Mary Kidd Davis, MS, RN

Adjunct Faculty

Assistant Professors: Ronald Mixon, MD
Jessica Shanta, MD
Jigar Tataria, MD

Professor: Douglas Ander, MD

Medical Education

*Primary appointment in another department.

The Department of Medical Education (DOME) is the academic home for interdisciplinary faculty with a wide variety of backgrounds, degrees, and skill sets who are deeply engaged in educational activities in addition to filling multiple administrative roles. We direct and teach interdisciplinary MD courses: 1st year integrated curriculum; Pathophysiology; FOM 1, 2, 3; as well as in Graduate Education in Biomedical Sciences (GEBS, Graduate Education in Physician Assistant Studies (GEPAS), Public Health, Graduate Medical Education (GME/residencies) and Faculty Development programs. We are/aspire to be master teachers with the passion and skills to support diverse learners. In addition to teaching, members of the DOME have administrative roles in directing the Clinical Skills Center/Standardized Patient Program, the Quality Enhancement Program, the Office of Digital Learning, Simulation Learning, Office of Educational Outcomes and Assessment, Office of Educational Affairs, and more.

Medicine

Chairperson and Associate

Professor: Richard Snyder, MD

Vice Chair: Chinedu Ivonye, MD

Clerkship Director: Marvin L. Crawford, MD

Associated Clerkship Director: Adesoji Oderinde, MD, MSCR, FACP

Professors:

Felix Aikhionbare, PhD
Khalid Bashir, MBBS
Cinnamon Bradley, MD
*Martha L. Elks, MD
Yohannes Endeshaw, MD, MPH
Mesfin Fransua, MD
Jalal Ghali, MD
Chinedu Ivonye, MD
Sanjay R. Jain, MBBS, MS, PhD
Khadeja Johnson, MD
Julia J. Liu, MD, MSc
Chamberlain I. Obialo, MBBS
Adesoji Oderinde, MD
Elizabeth O. Ofili, MBBS, MPH
Anekwe E. Onwuanyi, MBBS
Priscilla Pemu, MBBS
Rajesh Sachdeva, MBBS
Roger P. Simon, MD
Herman Taylor, MD, MPH

Associate Professors:

David W. Anderson, MD
Nicolas Bakinde, MD
Victor Blake, MD
Marvin L. Crawford, MD
Melvin Echols, MD
Balsam El Hammali, MBBS
Norberto Fas, MD
Eric Flenaugh, MD
Dale Hardy, PhD, MD
Rigobert Lapu-Bula, MBBS, PhD
Nkechi Mbaezue, MD
Adefisayo Oduwole, MBBS
Chima Ohuabunwo, MBBS
Myra E. Rose, MD

Medicine

Qing Song, MD, PhD
Harold G. Stringer, MD
Gloria E. Westney, MD, MS

Assistant Professors:

Chantal Branson, MD
Austin Chan, MD
Christine Charaf, MD
Poorvi Choordia, MD
Dokun Dairo, MD, FACP
Shaila Day, DO
Hafiz Fadl, MD
Michael Flood, MD
Hirut Gebrekristos, MD
Leonard Gyebi, MD
Smitha John, MBBS
Sri Lakshmi Kollepara, MD
Imran Khan, MD
Nnamdi Nwaohiri, MBBS
Kencliffe Palmer, MD
Mario Ponce Alvarez, MD
Melvin Simien, MD
Michelle Sims, MD
Yasir Taha, MD
Geetanjali Vasandani, MBBS
Judith Volcy, MD
Feyi Ward, MD, FACP

Instructors:

Kapil Bhatia, MD
Koreen Hall, NP-C, MSN
Eric Chang, MD
Suaka Kagbo-Kue, MD
Chantal Navalah, NP-C, MS

Adjunct Faculty

Professor Emeritus:

Lonnie C. Jenkins, MD

Professors:

Judith K. Gwathmey, VMD, PhD
C. Michael Hart, MD

Medicine

Robert Jansen, MD, MBA
Daniel Nixon, MD
Lawrence Phillips, MD
Louis W. Sullivan, MD
A. Maziar Zafari, MD

Associate Professors:

Howard J. Cohen, MD
Marilyn G. Foreman, MD
Harold A. Franch, MD
Kenny M. Frontin, MD
Robert P. Gaynes, MD
David M. Guidot, MD
Andrea G. Parker, PhD
Maria Ribeiro, MD
Gary Richter, MD

Assistant Professors:

Dereje Aboye, MD
Joanne S. Allam, MD
Ricardo Alvarez, MD
Fernando Arzola, MD
Hakeem O. Ayinde, MBChB, MS
Rabih I. Bechara, MD
Sujata Bhowmik, MD
Karen A. Blanchard, MD
Heather L. Bloom, MD
Ioana Bonta, MD
David J. Bower, MD
Michel Brathwaite, MD
Michael Brooks, MD
Marcus L. Brown, MD
Elizabeth Burgess, MD
Marzena Buzanowska, MD
Sheryl C. Caberto, MD
Sean Cavanaugh, MD
Patricia Ihuoma Chimezie, MD
William Cleveland, MD, MPH
Carter Co, MD
Larona Colbert, MD
Manisha Das, MD
Amaka E. Ezimora, MD
Nadene C. Fair, MD

Medicine

Bilkisu Gaye, MD
Kevin D. Goodlow, MD
Steven M. Gorbatkin, MD
Liliana P. Guerva-Bermudez, MD
David E. Green, MD
Sonu Gupta, MD
Melanie Harrison, MD
Deborah G. Henry, MD
Matthew Hogan, MD
Leslie R. Holmes, MD
Brandi Hosley, MD
Angus C. Howard, MD, MBA
Amanda J. Hutchison, MD
Kehinde O. Idowu, MD
Octavian C. Ioachimescu, MD, PhD
Reginald R. Jackson, MD
W. Brent Keeling, MD
Frazier L. Keitt, DO
Bradford C. Lipman, MD, FACC
Aysha Khoury, MD
Gautum Kumar, MBBS
Willie E. Landrum, MD
Jennifer Larsonm, MD
Anna V. Longacre, MD
Erin Lundberg, MD
Kreton Mavromatis, MD
Chison J. Mbonu, MD
Kelly McCants, MD
Michael McDaniel, MD
John McKnight, MD
Ashish Mehta, MD
Rao S. Mikkilineni, MD
Abid Mohiuddin, MD
Jayne Morgan, MD
Lasongia Morton, MD
Priyumvada Naik, MD
Edward C. Nelson, Jr.
Tresa L. Nesbitt, MD, PhD
Nathan J. Neufald, MD
Daniel Nixon, MD
Darin E. Olson, MD, PhD
Emmanuel Onasile, MD

Medicine

Cydney T. Parker, MD
Christopher Parks, MD
Kalai C. Parthiban, MD
Neha Pathak, MD
Neal Patel, MD
Sonal Patel, MD
Jonahan Perkins, MD
Brion Randolph, MD
Maria Ribero, MD
Patricia Rich, MD
Mary Rhee, MD
Lynn Schlanger, MD
Swapan Dholakia, MD
Solomon Tafari, MD, MPH, FHM
Mahdi Taha, DO
Yoseph H. Tekleyes, MD
Saiprakash B. Venkateshiah, MD
Lucy Witt, MD, MPH
Shayan Zafrani, MD

Instructors:

Joyce Akwe, MD, MPH
DeAnn Bing, MD
Janet L. Bivens, MD
Dominic C. Cruz, MD
Julie Jackson-Murphy, MD
Amy Miller, MD
Tomia P. Palmer-Harmon, MD
Dustin Smith, MD
Scott Steinbach, MD
Melissa Stevens, M/D
Ingrid Tanubrata, MD, MPH
Tulani Washington-Plaskett, MD
Wendy L. Wright, MD

Research Associate:

Sudip Banerjee

*Primary appointment in another department.

Medicine

The **Department of Medicine** specializes in the provision of disease prevention, health promotion and care to the acutely and chronically ill adult. The department is actively involved in teaching clinical skills in the second-year and in the third-year clerkship in Medicine. A variety of clinical electives are available, including acting internship in Medicine, Medical ICU, and subspecialty experiences.

The Department of Medicine is the largest academic department in the medical school. It is comprised of the General Internal Medicine section and most of the subspecialties of medicine: Cardiology, Pulmonary/Critical Care, Nephrology, Gastroenterology, Geriatrics, Endocrinology, Infectious Diseases, and Hematology/Oncology. The Department of Medicine also includes Neurology.

Members of the department are actively involved in clinical service, both clinical and laboratory research, and the education of medical students and internal medicine residents. Our principal teaching and clinical venues are Grady Memorial Hospital and the Atlanta VA.

Our **Internal Medicine Residency Program** earned full accreditation by the ACGME and currently has 72 residents. The residency program provides residents with an innovative curriculum to address the full scope of Internal Medicine from the straightforward to the most complex disease states. Our residents receive outstanding one on one teaching and supervision from nationally and internationally recognized physicians in a variety of patient care settings. We are actively engaged in providing top notch primary care, as well as excellent subspecialty care to the people of Atlanta, Georgia and beyond.

Our program shares in the mission of the medical school to train physicians who will be committed to serving the underserved and eliminating health care disparities, through primary care delivery, research, and academic endeavors. However, upon graduation our residents are prepared to pursue any number of career paths including subspecialty fellowships, hospital medicine, and international medicine. Our goal is to fulfill this most important mission while maintaining the highest of humanistic qualities at all times as we provide compassionate, culturally competent, patient-centered care.

The **Morehouse School of Medicine Cardiovascular Disease Fellowship** recently received ACGME initial accreditation. Our Cardiovascular Disease fellows began their three-year fellowship program training as of July 1, 2017 and we currently have six cardiology fellows that are being trained annually at the Morehouse School of Medicine. Our first graduating Cardiovascular Disease class will be graduate in June 2020.

Our Cardiovascular Disease fellows will participate in outpatient clinics, inpatient services and procedures including catheterization, stress testing, transthoracic echocardiography and transesophageal echocardiography and nuclear medicine at Grady Hospital. The Cardiovascular Disease fellows will also participate in outpatient and inpatient electrophysiology and vascular services in addition to providing advanced cardiac imaging services at the Atlanta Veterans Administration Medical Center.

Microbiology, Biochemistry and Immunology

Chairperson
and Professor:

Vincent Bond, PhD

Professors:

Francis Eko, PhD
James W. Lillard, PhD
Michael Powell, PhD
Shailesh Singh, PhD
Jonathan Stiles, PhD

Associate Professors:

Erica L. Johnson, PhD
Lilly Immergluck, MD
Rajesh Singh, PhD

Assistant Professors:

Carmen M. Dickinson-Copeland, PhD., MSCR
Mingli Liu,
Li Ma, PhD
Yusuf Omosun, PhD
William Roth, PhD

Instructors:

Ming Bo Huang, PhD, MD
Hina Mir, PhD

Adjunct Faculty

Professors:

*Veena Rao
*E. Shyam Reedy

Associate Professors:

*Joseph Igietseme, PhD
*Karen Randall, PhD

Instructors:

Tshaka Cunningham
*Hyacinth, Hyacinth, MD, PhD
Kristini Miles, PhD
Bonnie Roberson
Joshua Simon
Takima Sims

*Primary appointment in another department.

Microbiology, Biochemistry and Immunology

The Department of Microbiology, Biochemistry and Immunology is responsible for instruction of first-year medical students in biochemistry, of second-year medical students in medical microbiology and immunology. The department is responsible for instruction of PhD students in Microbiology, Biochemistry and Immunology through many graduate courses. The department is responsible for instruction of physician's assistant trainees in biochemistry and microbiology.

The faculty are involved in scientific research that is both well-funded by extramural sources and have been published in leading journals. The research also involves graduate students and postdoctoral fellows, as well as research staff. Research areas in biochemistry include molecular genetics, metabolism, cardiovascular biology, nutrition, signal transduction, and mechanisms of cellular proliferation. Research areas in microbiology and immunology include: the immunology of AIDS, mycology, molecular parasitology, sexually transmitted diseases (STD), pathogenic microbiology, the immunology of infection, molecular virology, the mechanisms of autoimmune diseases, and vaccine development. A broad research area is use of Natural Products to address multiple target diseases. Faculty are actively involved in several MSM research institutes & centers, and programs. They serve as members of local and national committees and as reviewers of journal articles and grant applications. The faculty serve as mentors for junior faculty, postdoctoral trainees, graduate students, MD students, PA students, and undergraduates. They are involved in community programs locally, nationally, and internationally.

Neurobiology

Chairperson and Professor: Walter Royal, III, MD

Professors: Morris Benvieniste, PhD
Alec Davidson, PhD, MS
Woo-Kuen Lo, PhD
Peter MacLeish, PhD
Robert Meller, DPhil
Shobu Namura, MD, DMSc
John Patrickson, PhD
*Roger Simon, MD
Robert Sloviter, PhD
Zhigang Xiong, MD, PhD
An Zhou. PhD

Associate Professors: J. Christopher Ehlen, PhD
Kelwyn H. Thomas, PhD

Assistant Professor: Oscar Castanon-Cervantes, PhD
Tiandong Leng, MD, PhD
Todd White, PhD

Instructors: Talib Saafir, PhD
Adam Stowie, PhD

Adjunct Faculty

Associate Professors: Jorge Benitez, PhD
Vince D. Calhoun, PhD
Ketama Paul, PhD
Roger Simon, MD

*Primary appointment in another department.

The Department of Neurobiology participates actively in the preclinical education of students in the MD program through the Organ Systems 3 course. Faculty members participate in core instruction for the PhD in Biomedical Sciences program and in research mentoring.

Departmental faculty are actively engaged in biomedical research, and most of the faculty have extramural grants to support their studies. Additional research studies are carried out in a collaborative arrangement with investigators in other departments as well as at other institutions.

Neurobiology

Departmental faculty are actively involved in the many research centers and institutes of MSM. Many members of the department are in the Neurosciences Institute. Research in this institute covers a broad range of cellular and molecular neuroscience including the molecular biology and physiology of circadian rhythm, neuroprotective effects of neuregulin, regeneration of CNS neurons, and functional imaging at the cellular level, and other areas. Several members of the department serve on Standing and Ad Hoc committees at the medical school, in the community and with the federal government. Faculty members work with high school and undergraduate students from Atlanta area colleges and universities. They also serve as advisors and/or mentors for graduate students in the graduate PhD program and as thesis/dissertation committee members.

Obstetrics and Gynecology

| | |
|----------------------------|---|
| Chairperson and Professor: | Roland Matthews, MD |
| Clerkship Director: | Saladin Cooper, MD |
| Clinical Scholars: | Raimot Olanrewaju, MD Hedwige Saint Louis, MD MPH |
| Professors: | Franklyn H. Geary Jr., MD Valerie Montgomery Rice, MD Veena Rao, PhD, MS E. Shyam Reddy, PhD |
| Associate Professors: | Fredrick Bright, MD Kiwaita S. Phillips, MD Hedwige Saint-Louis, MD |
| Assistant Professors: | Kimberly Carroll, MD Indrajit Chowdhury, PhD Saladin Cooper, MD Cheryl Franklin, MD, MPH Regina Lee, MD Raimot Olanrewaju, MD Shalandra Ross, MD Barbara Simmons, MD Diana Wilson, MD |

Adjunct Faculty

| | |
|-----------------------|--|
| Associate Professors: | Dorothy Mitchell-Leef, MD Guiseppe Del Priore, MD |
| Assistant Professors: | Renee Allen, MD Hope Ashby, PhD Sharon Bent-Harley, MD Keila A. Brown, MD Matthew Burrell, MD Guilherme Cantuaria, MD, PhD Kevin Carson, MD Jacqueline Castagno, MD Eddie Raymond Cheeks, MD |

Obstetrics and Gynecology

Carla Crawford, MD
Donald A. Culley, MD
Felecia Dawson, MD
Margarett Ellison, MD, MPH
Lisa Flowers, MD
Jenelle E. Foote, MD
Jacqueline H. Grant, MD
Zsakeba T. Henderson, MD
Marion Gerald Hood, MD
Martin D. Jeffries, MD
John C. Lipman, MD
L. Dawn Mandeville, MD
John McBroom, MD
Andrea J. Murray-Stephens, MD
Vanessa Niles, MD
Moshood Olatinwo, MBBS
Charlotte Owens, MD
James D. Perkins, MD
Stephen Salmieri, DO
Frederick Sengstacke, MD
Dominique J. Smith, MD
April Speed, MD
Madeline Sutton, MD
Renee Volny, DO, MBA
Dale Wilmot, MD
Lawrence Wilson Jr, MD
Anne Wiskind, MD
Oi Wah Stephanie Yap, MD

Instructors:

Shirley Cao, MD
Lynne Cunningham, MD
Kevin Edmonds, MD
Renee Volny, DO, MBA

*Primary appointment in another department.

The Department of Obstetrics and Gynecology at Morehouse School of Medicine provides education and training in obstetrics and gynecology to medical students in clinical skills in the second-year course in Fundamentals of Medicine 2 and in the third-year Obstetrics and Gynecology clerkship. A variety of fourth-year electives, including acting internships are available. The department also has a four-year accredited residency in obstetrics and gynecology. Faculty also provide patient care at Grady Memorial Hospital in Atlanta, and private patient care in our office practice and other hospitals. Faculty are actively engaged in research in women's health care.

Obstetrics and Gynecology

Presently, the Department of Obstetrics and Gynecology is involved in a variety of clinics in Grady Memorial Hospital. They include: High Risk Obstetrics, Reproductive Endocrinology and Infertility, Continuity, Walk-In, Dysplasia, Oncology, Teen, Perinatal referrals and consultations, Ambulatory Surgery, Breast and Gynecology, Urogynecology and Family Planning. In addition, there are two MSM Obstetrics and Gynecology community facilities and three Grady Satellite Clinics. In the area of research, the Department of Obstetrics and Gynecology received research grants for (a) Longitudinal Study of Lead Poisoning, which focuses on maternal-fetal cord blood lead levels, placental morphology and newborn neurodevelopment, (b) Pregnancy Prevention, which is directed towards education, clinical interventions and strategies to reduce teenage pregnancy, and (c) a National Institute of Health center grant for basic reproduction research jointly with faculty in the departments of Physiology and Anatomy, (d) Respectful Maternity Care in Medical Education. The department hosts the annual HeLa Women's Health Conference, which promotes clinical research, didactic and continuing education.

Pathology and Anatomy

Chairperson and Professor: Lawrence E. Wineski, PhD, MA

Professors: Erika Brown, PhD
Sandra Harris-Hooker, PhD, MS
Douglas Paulsen, PhD
Marjorie M. Smith, MD

Associate Professors: Rita Finley, PhD
Sarah J. Greene, PhD
*Brenda Klement, PhD

Assistant Professors: Amy Lovejoy Mork, PhD
Kimberly Redding, MD, MPH

Adjunct Faculty

Assistant Professors: Stacey Desamours, MD
Karen E. Sullivan, MD

*Primary appointment in another department.

The Department of Pathology and Anatomy utilizes its activities in teaching, clinical service and research to further the understanding of clinically relevant basic anatomic sciences (including gross anatomy, embryology, cell biology and histology) and the morphologic and functional effects and outcomes of disease states. Biomedical education is the primary focus of the department. Faculty members are dedicated to providing quality education in the MD, Physician Assistant, and graduate programs, as well as to residents and practicing physicians. Areas of research include development of innovative curricula and educational media, methods of assessment, and production of electronic and distance learning tools.

Pediatrics

| | |
|---|---|
| Chairperson and Professor: | Yasmin Tyler-Hill, MD |
| Director of Pre-doctoral Education and Professor: | David A. Levine, MD |
| Associate Professor/ Residency Program Director: | Lynn Gardner, MD |
| Professor: | Roger Berkow, MD, FAAP |
| Associate Professor: | I. Leslie Rubin, MBBSCh |
| Assistant Professors: | Latasha Bogues, MD Chevon Brooks, MD Nicola Chin, MD *Gail Mattox, MD Ghada Osko, MD Jason Payne, MD *Sara Vinson, MD |
| Instructor: | Alejandro Shepard, MD |
| Professor Emeritus: | Frances Dunston, MD, MPH, MS |
| Adjunct Faculty | |
| Professors: | Jay Berkelhamer, MD Benjamin G. Roberts, MD |
| Associate Professors: | Robert M. Campbell, MD James Fortenberry, MD LeRoy Graham, MD Kiran Hebbar, MD Sonja Suzzete Hutchins MD, MPH, Dr PH Matthew Lee Paden, MD Jose O. Rodriguez, MD Atul Vats, MD |

Pediatrics

Assistant Professors:

Olufolake Adisa, MBBS
Bolanle Akinsola, MD, MPH
Deborah Andresen, MD
Jerome Michael Armand, MD
Lemuel M. Arnold, MD
Theodore E. Atkinson, III, MD
Roxanne Barrow, MD, MPH
Ann Beach, MD
Avril P. Beckford, MBCChB
Wyndolyn C. Bell, MD
Luke J. Beno, MD
Helena K. Bentley, MD
Frank Berenson, MD
Tiffini N. Billingsly, MD
John Bleacher, MD
Lisa R. Bliss, JD
Sylvia Caley, JD
Linda Cannon, MD
Brandie Chan, MD
Margaux Charbonnet, MD
Heather L. Clemons, MD
Mary L. deAlmeida, MD
Rachelle L. Dennis-Smith, MD
Sneha S. Desai, MD
Nancy R. Doelling, MD
Loreen Doyle-Littles, MD
Kathi Earles, MD
J. Robert Flamini, MD
Gary L. Frank, MD
Rachelle L. Friedberg, MD
Patrice T. Gaspard, MD
Christopher Gaydos, MD
Edward M. Gotlieb, MD
Jaquelin S. Gotlieb, MD
Paula J. Harmon, MD
W. Steen James, MD
Khaliah Johnson, MD
Steven M. Julius, MD
Pradip P. Kamat, MD
Cheryl J. Kendall, MD
Kevin Kirchner, MD
David Kotzbauer, MD
Burton L. Lesnick, MD
Joyce Lilly-Blain, MD
Joey Low, MD

Pediatrics

Jennifer Madden, MD
Kevin Mason, MD
Michael E. McConnell, MD
James Mitchell, JD
Aminu Mohammad, MD
Gary L. Montgomery, MD
Karen Moore, MD
Monica Moore, MD
Glenda Morris-Robinson, MD
Kristine Nieh, MD
D. David O'Banion, Jr., MD
LaToya Oglesby, MD
Christy L. Ott, MD
Nirav R. Patel, MD
Toni Petrillo-Albarano, MD
Nga Pham, MD
Elizabeth Poplawski, DO
Jonathan Popler, MD
LaKimberly Price, MD
Reneathia Primus Baker, MD
Mark S. Rappaport, MD, PhD
Erin M. Redwine, DDS, MS
Laura Rich, MD
Sandra Rodriguez-Sfeir, MD
Ida Lynn Rose-Mize, MD
Diedra Rowe, MD
Shonali Saha, MD
Shelly Ann Salandy, MD
Dorie Saxon, MD
Robert M. Schultz, MD
Peter H. Scott, MD
Luqman Seidu, MD
Deneta Sells, MD
Rebecca C. Staub, MD
Belinda Stephens-Hodges, MD
Deirdre Stewart, MD
Jana A. Stockwell, MD
Emily Suski, JD
Olufemi Taiwo, MD
Taryn Taylor, MD
Javier Tejedor-Sojo, MD
Joshua A. Vova, MD
Michelle C. Wallace, MD
Karen Wasilewski, MD, MSCR
Nadeen White, MD
Carol Williams, MD
Julie Williamson, DO

Pediatrics

Alice E. Wilson, MD
Lynette Wilson-Phillip, MD
Michael J. Wolf, MD
Najaz Woods-Bishop, MD
Inci Yildirim, MD, MSc, PhD
Ed Young, MD

Instructors:

Fredly Bataille, MD
Lisa R. Bliss, JD
Angela R. Butler-Rice, MD
Kimberly M. Humphrey-Browne, MD
James Mitchell, JD
Shekou Sesay, MD
Emily Suski, JD

*Primary appointment in another department.

The Department of Pediatrics has as its primary goal the development and provision of a curriculum in Pediatrics that will furnish the students and residents with a broad view and knowledge of the types of problems encountered in a pediatric setting. Faculty are actively involved in teaching in the second-year clinical skills course Fundamentals of Medicine 2 and in the third-year clerkship in Pediatrics.

The clerkship is a unique community-based experience in which the students rotate to a wide variety of settings for a comprehensive introduction to the spectrum of pediatric practice.

The department also has a unique community-based pediatrics residency that is fully accredited. In addition to primary care, the department also encourages the pursuit of careers in research and academic medicine. The environment in which these concepts of medicine are developed emphasizes concern and compassion for the patient, the patient's family, and community. The practice setting for the faculty includes Children's Healthcare of Atlanta at Hughes Spalding Hospital and at Scottish Rite Hospital, Grady Memorial Hospital, and Morehouse Healthcare, MSM's faculty practice plan.

Pharmacology and Toxicology

| | |
|----------------------------|---|
| Chairperson and Professor: | Gianluca Tosini, PhD |
| Professors: | Mohamed A. Bayorh, PhD Jason DeBruyne, PhD Ward Kirlin, PhD *Robert Meller, PhD *Robert Sloviter, PhD |
| Associate Professors: | *Danita Eatman, PhD Karen Randall, PhD Kennie R. Shepherd, PhD Evan F. Williams, PhD |
| Assistant Professors: | Kenkichi Baba, PhD Kameswara Badri, PhD Hao Doung, PhD |
| Instructors: | Suen Ting-Chung, PhD |

The Department of Pharmacology and Toxicology provides educational programs for medical students and graduate students in the biomedical sciences. Faculty members teach in the required second-year course. The department offers study and research in a variety of pharmacological and toxicological sub discipline areas, including cardiovascular, ocular, biochemical, neural, molecular, immunological and environmental. All faculty members participate in teaching, research and institutional service activities.

* Secondary Appointment

Physician Assistant Studies

Program Faculty

| | |
|--|----------------------------------|
| Assistant Dean, Program Director/ Assistant Professor: | Pangela H. Dawson, PhD, PA-C |
| Associate Director/Academic Director/ Assistant Professor: | Donny Ard, PhD, MHA, PA-C |
| Assistant Clinical Director/ Instructor: | Ijeoma Amobi, DMSc, MS, PA-C |
| Community Engagement Director, Instructor: | Stephanie Y. Banks, MPH |
| Curriculum Innovation and Evaluation Director/ Associate Professor: | Sheena D. Brown, PhD, MSCR |
| Clinical Instructor: | Diane Griggs, NP-C |
| Interim Admissions Director: | Charlene Justin, MMSc, PA-C, OT |
| Interim Clinical Director/Associate Professor: | Debra F. Nickell, PhD, MBA, PA-C |
| Medical Director/Professor: | Folshade Omole, MD, FAAFP |

Adjunct Faculty

| | |
|---|---|
| Adjunct Instructors/Assistant Professors: | Ebony Blackmon MSPAS, PA-C Omofolarin Fasuyi, MD, MPH Sabrina Jackson-Botts, MMSc, PA-C Donna Murray, DMSc, MS, PA-C Candace Wooten, MS, PA-C |
|---|---|

Program Staff

| | |
|------------------------------------|-------------------------|
| Program Manager: | Mieshia Baker-Dunn, MBA |
| Program Coordinator: | Corey Smith, MBA |
| Curriculum Manager: | Tyra Willingham, MPH |
| Clinical Curriculum Manager: | Keisha Chandler, MPA |
| Program Manager (HRSA PALs Grant): | Roselle Caruth, MEd |

Physician Assistant Studies

The MSM PA program participates in the Central Application Service for Physician Assistants. The online application deadline is Sept 1st. The fee is based on the number of programs to which an applicant applies. All candidates must submit official transcripts from the regionally accredited universities or colleges directly to CASPA. Transcripts should not be sent to MSM. For questions about completing the online application, please contact CASPA at caspainfo@caspaonline.org.

The MSM PA Program requires applicants to submit three letters of reference directly to CASPA. Letters of reference from a PA or physician, academic professor and former employer are recommended.

The MSM PA Program requires applicants to submit official scores for the Graduate Record Exam or MCAT taken within the past five years. Applicant scores must be directly reported from ETS to CASPA. Use GRE Institution Code 2552. **OR** when submitting MCAT scores, applicants must request AAMC to send scores directly to CASPA. Applicants must also self-report MCAT scores in the Standardized Test section of the CASPA application.

Physiology

Chairperson and
Professor:

Winston Thompson, PhD

Professors:

Rajagopala Sridaran, PhD, MS

Associate Professors:

Xueying Zhao, PhD
Dong Liu, MD, MS
Luis Villacorta, PhD., FAHA

Assistant Professors:

Adel Driss, PhD
Sharon Francis, PhD
Tennille Leak-Johnson, PhD., MS

The Department of Physiology plays a key role in the education of first-year students in the medical education program. Faculty also have key roles in graduate student education in the core curriculum, elective, and laboratory experiences. The department has as its primary goal imparting a background of basic physiological knowledge to medical and graduate students so that they may apply this information either to the practice of medicine or to the conduct of biomedical research. Departmental faculty members also have developed and maintained productive individual and collaborative research programs in a variety of areas, including cardiovascular physiology, obesity, metabolic disorders, renal physiology, reproductive endocrinology, infectious disease and the pathophysiology of gastrointestinal disorders. Faculty participate in MSM research institutes and centers, including the Reproductive Science Research Center, the Cardiovascular Research Institute, and the Research Center in Minority Institute.

Psychiatry and Behavioral Sciences

Chairperson and Professor: Gail A. Mattox, MD
Vice Chair and Residency Director: Deirdre Evans-Cosby, MD
Vice Chair/ Education and Associate Clerkship Director: Quentin Ted Smith, MD

Clerkship Director: Nicole Cotton, MD

Professors: Farzana Bharmal, MBBS
John Gaston MD
Quentin Ted Smith, MD
Kisha Holden, PhD

Associate Professors: Deirdre Evans-Cosby, MD
*Marietta Collins, PhD
Sarah Vinson, MD
Jasmine Taylor, MD
Glenda Wrenn, MD
* Marietta Collins, PhD
*Rhonda Holiday, PhD
*Elleen Yancey, PhD

Assistant Professors: Aalok Chandora, MD
Nicole Cotton, MD
Jordan Howard, MD
Shawn Garrison, PhD
Sheril Kalarithara, MD
Fatima Kasiah, MD
Nina Mena, MD
Melonie Bell-Hill, PhD
Gilberte Bastien, PhD
Shaakira Ford, DSW
Bakari Vickerson, MD

Adjunct Faculty

Professors: Todd Antin, MD, DFAPA
Benjamin Druss, MD, MPH
Steven L. Jaffe, MD
Randee Waldman, JD
Melissa Carter, JD

Psychiatry and Behavioral Sciences

Associate Professors:

Edith Fresh, PhD, MSW
Emile D. Risby, MD
Erica Duncan, MD
Ranjan Avasthi, MD
Karen Mechanic, MD
Jaffar Khan, MD
Mahendra Dave, MD

Assistant Professors:

Roohi Abubaker, MBBS
Bhushan Agharkar, MD
Edward Ajayi, MBBS
Asaf Aleem, MBBS
R. Michael Allen, MD
Patrick Amar, MD
Ashraf Attalla, MD
Joel Axler, MD
Aisha Baker, PhD
Hasani Baharanyi, MD
Kia Brinson-Mason, MD
Anastasia Brown-Alvarado, MD
Adolph Casal, MD
Jocelyn Smith Cox, MD
Nahil Chohan, MD
Sarah Cooke, MD
Eamon Dutta, MBBS
Kim Dobson-Callahan, MD
Otega Edukuye, MD
Bryon Evans, MD
Ayman Fareed, MD
Abiodun O. Famakinwa, MD
Yolanda Fountain, PhD
Ayman Fareed, MD
Andrew Farkas, MD
Margaret E. Frank, MD
Tiffany Gartrell, MD
Rahul Gupta, MD
Belen Gutter, PhD
David Guttman, MD, PhD
Marcus C. Griffith, MD
Erika Goodwin, MD

Psychiatry and Behavioral Sciences

ACADEMIC DEPARTMENTS

Patrice Harris MD
L. Monique Harris-Hunter, PhD
Nzinga Harrison, MD
Linda G. Harvey, MD
Kwanna V. Hayes, MD
Erica Heard MD
Kristine Hsu-McDonald, MD
Kristy Jackson MD
Nina Jefferson, PsyD
Troy B. Kapral, MD
Woo Jin Kwak, DO
Sipra Laddha, MD
Jonathan Levy MD
Christoffel Leroux, MBBS
LaTasha McKenzie Mack, PhD
Yolanda Malone-Gilbert, MD
Jeanelle Martin, MD
Byron McQuirt, MD
Asad M. Mehdi, MD
Marcial J. Mendez, MD
Delquis Mendoza, MD
Brian McGregor, PhD
Edward Minor, MD
Theodore Morgan, MD
Arun Munjal, MD
Brett Murphy-Dawson, MD
Asad M. Naqvi, MBBS
Walid M. Nassif, MD
Daniel Newman, MD
Arlene Noriega, PhD
Thomas Oden, MD
Ajitabh Pandey, MD
Dilipkumar C. Patel, MBBS
Darshan Patel, MD
Viorica M. Pencea, MD
Paige Pittman, PsyD
Joy Reeves, PsyD
Angela P. Shannon, MD
Vanderlyn Sewell, MD
Hilaire Shongo-Hiango, MD

Psychiatry and Behavioral Sciences

Adam Silberman, MD
Donna Silver, MD
Sultan Simms, MD
Kelly Skelton, MD
Jocelyn Smith Cox, MD, PhD
Christopher Rashad Smith MD
Beverly Stoute, MD
Anna Tanner, MD
Yilang Tang, MD
Laura Tedeja-Kurlyandchick, MD
Ravi K. Telakapalli, MBBS
Daniels J. Wachtel, PsyD
Martha Ward, MD
Joseph Weissman, MD, PhD
DeJuan White, MD
Natasha Whitfield, PhD
Christina Wilson, PhD
Henry Wynne, PhD
Beverly Kay Young, MD
Aleema Zakers, MD

*Primary appointment in another department.

The Department of Psychiatry and Behavioral Sciences teaches and coordinates didactic courses for first-year and second-year students in (normal) Human Behavior and Psychopathology, respectively, course streams within Fundamentals of Medicine 1 and 2. The department also has a required third-year clinical clerkship and senior clinical electives. The department sponsors an accredited residency in Psychiatry and an accredited fellowship in Child and Adolescent Psychiatry. These dynamic and comprehensive undergraduate and graduate medical education programs emphasize individual professional growth of each student and resident.

The department is committed to supporting the interface of psychiatry and primary care with an emphasis on working within the community to advance health equity. We emphasize quality patient care along with the pursuit of scholarly activity and meaningful research. The Cork Institute on Alcohol and Other Addictive Disorders, established in the department in the fall of 1985 with an endowment from the Joan B. Kroc Foundation, has the mission of serving as a leader in the area of professional education about substance use disorders among African-American and underserved populations.

Public Health Education

Chairperson and

Professor:

Stephanie Miles-Richardson, DVM, PhD

Associate Professors:

Dorethea Elaine Archie-Booker, EdD, MS, ICPS

Gemechu Gerbi, PhD, MSc

Reinetta Waldrop, DrPH, MSHS, FACHE

Adjunct Faculty

Assistant Professors:

Jarvis Carter, PhD, MPH

Sheriette Stokes, PhD, MPH

Nana Wilson, PhD, MPH, MBA, MSCR

Frank Franklin, PhD, JD, MPH

Instructors:

Marcus Dumas, MPH

Vincent Walford, PhD, MPH

Raegan Tuff, PhD, MPH

Quantrilla Ard, PhD, MPH, MPhil

Christye Brown, PhD, MPH

Mark Mooney, MPH

The Department of Public Health Education (DPHE) is the academic home for interdisciplinary faculty who contribute to professional and academic public health and related fields. Collectively, faculty contribute to courses aligned with programs of study within the division of Graduate Education in Public Health. Current programs include the residential Master of Public Health Program (MPH), established in 1995 to address the increasing shortage of underrepresented minorities in leadership positions in the field of public health, and the Online MPH Program designed for working professionals.

Surgery

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| Chairperson and Professor: | Ed Childs, MD, FACS |
| Vice Chairperson: | Kahdi Udobi, MD, FACS |
| Clerkship Director: | Jacquelyn Turner, MD, FACS, FASCRS |
| Residency Director: | Shaneetta Johnson, MD, FACS, FICS, FASMBS |
| Professors: | Vernon Henderson, MD, FACS Joel Okoli, MD, MPH, FACS Kahdi Udobi, MD, FACS |
| Associate Professors: | Patricia Ayoung-Chee, MD, MPH, FACS Larry Hobson, MD, FACS, FASMBS Dzifa Kpodza, MD, MPH, FACS |
| Assistant Professors: | Caroline Butler, MD Ayana Chase, MD Brandon Henry, MD Jonathan Nguyen DO Richard Sola Jr., MD |
| Professor Emeritus: | Arthur B. Lee, MD, DSc Med |

Adjunct Faculty

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| Professors: | George Daneker, MD Frederick Cason, MD Raphael Gershon, MD Peter Rhee, MD, MPH Atef Abdel Salam, MD Alan M. Yahanda, MD |
| Associate Professors: | Titus D. Duncan, MD |

Surgery

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|-----------------------|---|
| Assistant Professors: | James K. Bennett, MD John Bleacher, MD William R. Boydston, MD William Brown, MD Joseph Bussey, MD Jenelle E. Foote, MD Julie Glasson, MD Anita Johnson, MD John Louis-Ubgo, MD George Raschbaum, MD Kellie Rose, MD William W. Rose III, MD Scott Steinberg, MD Mark Stovroff, MD Alan M. Yahanda, MD Raul Zambrano, MD |
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The Department of Surgery provides comprehensive clinical education in general surgery for students and residents. The department collaborates in instruction of first-year students in Human Morphology. There is a third-year clerkship in surgery as well as fourth-year elective. The department sponsors an accredited surgery residency.

The focus of the department is to provide superior surgical care to patients, to train our medical students and our residents in the practice, art, and compassion of surgery, and to make the department a local, regional, and nationally recognized Department of Surgery with excellence in education and patient care.

Our philosophy is to specifically address adversity issues in the surgery workforce. Our motto has been “a chance to make a difference, a tradition of excellence.” It goes without saying that the philosophy of the department is also to be a team player with the institution, joining with all facets of MSM in partnership to enhance, elevate, and to help MSM continue its very special mission. Departmental faculty are involved in breast cancer and other research as well as roles in national leadership in surgery and surgical education.

Morehouse School Of Medicine



MEDICAL EDUCATION



Admission Requirements and Procedures

The Admissions Committee is responsible for the acceptance of all students entering the first-year class at MSM. Morehouse School of Medicine encourages applications from, and gives full consideration to, all applicants for admission and financial aid without regard to sex, race, handicap, color, creed, or national or ethnic origin. MSM is committed to recruiting, enrolling, and educating substantial numbers of persons from racial minorities and from educationally and socio-economically deprived groups. The Admissions Committee selects those applicants who are more likely, in its opinion, to become the best students and physicians and fulfill the mission of the school.

Accreditation

Morehouse School of Medicine is accredited by the Southern Association of Colleges and Schools (SACS). In 2013 Morehouse School of Medicine, following survey visits and reviews by the Liaison Committee on Medical Education (LCME), received full accreditation for additional periods of eight years.

Selection Factors

The selection of students by the committee is made after careful consideration of many factors. Among them are intelligence, preparedness, motivation and aptitude. In the evaluation, account is taken of the candidate's scores on the Medical College Admission Test (MCAT), evidence of academic achievement, the extent of academic improvement, balance and depth of academic program, difficulty of courses taken and other indications of maturation of learning ability. The Committee is also interested in the activities of the applicant outside of the classroom including the nature of extracurricular activities, hobbies, the need to work, research projects and experiences, evidence of activities that indicate concurrence with the school's mission, and evidence of pursuing interests and talents in depth. Finally, the Committee looks for evidence of personal character and responsibility, compassion, honesty, motivation, commitment to service, and perseverance which, in the Committee's opinion, indicate that the applicant shows promise of contributing to the advancement of the art, science, and practice of medicine after obtaining the MD degree. The Committee's consideration of these factors is based on all components of the applicant's file including letters of recommendation, the academic record, the supplemental application, and the interview if the latter is granted. Qualified residents of the State of Georgia will be given high priority. Students who have been dismissed from medical school will not be considered for admission. International applicants must have a permanent resident visa.

Entrance Requirements

Completion of the baccalaureate degree is required for admission to the MD program. The education of a physician is lifelong. The years of formal schooling are only preparation for the self-education that a physician must continue throughout his/her professional life. Applicants are encouraged to have a broad educational background. No specific major is deemed superior to another. A major goal of undergraduate college work should be the development of the applicant's intellectual talents and to provide for his/her overall

Admission Requirements and Procedures

development and maturation. The premedical studies required for admission are set in order to provide the student with a firm grounding in subjects considered essential for the study of medical sciences, to provide the Committee on Admissions a means to evaluate aptitude for scientific work, and to determine interest in the sciences. The following courses must be included in undergraduate study:

- Biology w/laboratory (one year)
- General Chemistry w/laboratory (one year)
- Organic Chemistry w/laboratory (one year)
- Physics w/laboratory (one year)
- College level Mathematics (one year)
- English (including composition) (one year)

One academic year equals either three quarters, two semesters; or one semester and two quarters.

The Committee on Admissions prefers that the required premedical courses not be taken on a Pass/Fail basis, but that grades be received. The committee recommends that, if two or more introductory courses are offered by the undergraduate departments, the applicant take the more rigorous of the basic science courses.

An accepted student is responsible for completing all prerequisite course work prior to matriculation. It is understood that a student accepted by the school will be denied admission if he/she fails to complete all specifically required courses and to maintain a good record of scholastic performance and conduct during the period following acceptance.

All applicants are required to take the Medical College Admission Test (MCAT). Results of the test must be received by MSM before an applicant can be completely evaluated by the Committee on Admissions.

Applicants are strongly urged to take the test no later than the Spring of the calendar year preceding the year of entrance into the medical school so that the score can be considered early and the test can be taken again if improvements in performance are desired. Those who take the test at a later date may find themselves at a logistical, if not competitive, disadvantage in that the class may be filled, or largely so, before receipt of test scores. Applicants are not penalized for retaking the MCAT. MCAT scores that are over three years old from the year of desired matriculation will not be considered.

For information see: www.aamc.org/students/mcat/start.htm

Students accepted for admission must pay tuition and fees in accordance with the MSM policy in order to enter. Students may apply for loans, scholarships, and grants in aid in order to meet these financial obligations. The ability to finance a medical education is not a factor in the selection of candidates for admission. However, the final responsibility for payments of fees and tuition and for the provision of living expenses lies with the student. The School may require proof of financial resources before granting matriculation. Only U.S. citizens or international students holding a permanent resident visa are eligible for financial aid.

Admission Requirements and Procedures

Evaluation of Foreign Studies

Applicants who have completed coursework or hold a bachelor's or advanced degree from an institution of higher learning outside the United States must have their transcript(s) certified for equivalency to U.S. degrees or coursework by a credential evaluation service that is a member of the National Association of Credential Evaluation Services (NACES). Applicants who have completed coursework or hold degrees from, a postsecondary institution in Australia, Canada (except Quebec), New Zealand, or the United Kingdom will normally not need to have their academic transcripts evaluated and certified for equivalency.

Application Procedure

Morehouse School of Medicine participates in the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges. AMCAS is a centralized procedure for applying to any participating medical school with only one application and one set of official transcripts of academic work. Formal application for admission to the first-year class must be submitted through AMCAS. The AMCAS application for admission, common to all participating medical schools, is available online only at www.aamc.org. Applicants should follow the AMCAS menu.

For information see: <http://www.aamc.org/audienceamcas.htm>

Regular Admission

Morehouse School of Medicine will accept AMCAS applications to the first-year entering class beginning June 1 of the year prior to enrollment. The deadline for having all required credentials into AMCAS is December 1 of the year prior to admission. (This is a receipt date, not a postmark date.) AMCAS applications received after December 1 will not be forwarded to MSM.

Upon receipt of the application from AMCAS, the Admissions Office identifies qualified applicants and invites them to submit the MSM online supplemental application. Communication with applicants at this stage of the application process is usually by email. The non-refundable \$50.00 application fee is collected online with submission of the online supplemental application. The method of payment is credit card, only. The electronic check payment option is available up to eight (8) days prior to the supplemental deadline date, which is usually the first Friday in January. See the online application instructions for the exact date. Applicants are encouraged to submit materials well in advance of the deadline to allow sufficient time for receipt of all materials requested and to resolve any logistical problems that may occur prior to the deadline.

Fee Waivers: Only those applicants who received a fee waiver for the AMCAS application are eligible for a waiver of the MSM supplemental application fee. Qualified applicants are expected to upload their AMCAS issued fee waiver from within the application portal. MSM will review the form for eligibility. If after consulting with AMCAS, we determine that an applicant knowingly and falsely selected the fee-waiver option, his/her application will be automatically withdrawn from our applicant pool.

Admission Requirements and Procedures

Three (3) individual letters of recommendation, preferably from science faculty who have taught you, or a pre-medical committee composite letter of recommendation are required to complete the application. Once all supplementary materials are received and the application is complete, the applicant's admission credentials are reviewed and evaluated. Selected applicants are invited for a personal interview. Following the interview, if granted, final decisions are made by the Committee on Admissions. Decision notifications begin in November and continue until the class is filled.

Early Decision Admission

This is an optional program for the applicant whose first-choice school of medicine is MSM and who desires an admission decision by October 1st. To receive this special consideration the applicant must:

1. Submit an AMCAS application as an Early Decision applicant to Morehouse School of Medicine (You will be restricted from applying to any other medical schools until Morehouse reaches a decision). We strongly advise applicants considering applying as an Early Decision applicant to seek advice from the Director of Admissions in advance;
2. Be a resident of the State of Georgia;
3. Present an academic program of a minimum of 90 semester/135 quarters hours that indicates completion or plans for completion, of all courses required for admission;
4. Have a superior academic record and correspondingly strong scores on the MCAT;
5. Submit all required credentials to AMCAS by August 1;
6. If invited, appear for a personal interview on a mutually convenient date prior to October 1 and,
7. Accept a position in the class, if offered one.

The AMCAS Application for Admission contains complete instructions regarding the Early Decision Program.

Evaluation of Applicants

MSM participates in the [Association of American Medical Colleges Situational Judgment Test \(SJT\)](#). As part of our efforts to support a holistic admissions strategy and diversify the pool of applicants considered for interviews, MSM requires applicants to take a SJT to assess pre-professional characteristics needed to succeed in medical school. We will consider these scores as one part of our admissions process. The SJT is free to applicants.

Personal Interview

After all application materials have been received, the completed application is screened for possible interview. The Committee on Admissions would like to interview every applicant who passes the initial evaluation screening process, but since this involves thousands of applicants, that is not possible. Only those students who, on the basis of application data, appear to merit serious consideration for admission are selected for

Medical Degree

interviews. Approximately 8% of all applicants will be invited to MSM for an interview. Invitations for interviews are by email and in writing, and the Admissions Office schedules all appointments. The interview is at the applicant's expense.

Applicants who are invited to interview with us are required to complete the [AAMC Video Interview Tool for Admission \(VITA\)](#). The VITA is an additional step in our screening process and is offered at no charge to applicants. Applicants who have a disability or medical condition that requires a modification to the AAMC Video standard conditions should visit the [AAMC Video Tool for Admissions Accommodation](#) to submit a request for accommodations form directly to the AAMC.

Non-Disclosure Policy

Morehouse School of Medicine's policies applying to the disclosure of information on student records are consistent with federal and state regulations. Applicants should be aware that letters and statements of recommendation or evaluation are prepared, submitted, or retained with a documented understanding of confidentiality and are not subject to inspection by applicants. To ensure that the confidentiality of materials in each applicant's file is protected, members of the Admissions and Student Affairs Office staff will not divulge over the telephone, or in writing, information regarding a decision on an applicant. One exception to this rule is that, if written consent is given, the Admissions Office may inform the student's premedical advisor of action taken on the application by the Committee.

Accepted Applicants

Upon notification of an offer of acceptance for admission to MSM, the applicant is required to indicate his/her intent to matriculate at MSM by accepting our offer in the application portal. The applicant must respond to the offer of admission within the timeframe specified in the acceptance letter. An extension of this deadline may be granted upon written request by the applicant. A \$100 reservation deposit (payable by credit card only) is required with the acceptance of the offer. If the accepted applicant withdraws from the class with written notification to the Admissions Office prior to April 30, the deposit is refunded. Accepted applicants are also required to select the Commit to Enroll option in AMCAS by the published deadline.

Transfer Students

Transfer admissions are rare. However, applications are accepted from students in LCME accredited U.S. and Canadian schools of medicine, who are in good academic standing, have the full approval of the dean of their current school, and have a cogent reason for requesting transfer. Admission is contingent upon space availability; therefore, academically qualified applicants can still be denied admission due to lack of space.

Former Medical Students

Students are not considered for admission who have previously matriculated in medical school and/or have been dismissed for academic or disciplinary reasons.

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Objectives of the MSM Medical Curriculum

Morehouse School of Medicine, a historically black institution established to recruit and train minority and other students as physicians, biomedical scientists, and public health professionals committed to the primary healthcare needs of the underserved, has a primary goal to provide an academic environment that acknowledges education as the primary function of the institution that supports and promotes lifelong learning as a foundation for excellence in clinical practice, biomedical science, and public health practice. A major objective of the undergraduate medical program is to graduate students who are competent, caring, effective healthcare practitioners.

The undergraduate medical program requires that candidates for the MD degree acquire certain knowledge, skills, and attitudes that are essential for functioning in a broad variety of clinical situations. To render a wide spectrum of primary care, a graduate must develop:

- 1) A mastery of the concepts necessary for the prevention, diagnosis, treatment, and management of common medical problems, specifically display knowledge of:
 - a) The normal development, structure and physiological function of the body, organ systems, tissues and cells, and their interrelationships and the molecular, biochemical, cellular, and physiological mechanisms that are important in maintaining the body's homeostasis.
 - b) The biochemical, immunologic, pharmacologic, and microbiologic principles related to issues of disease, laboratory tests, and therapeutics and the various etiologies (genetic, developmental, metabolic, toxic, iatrogenic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of disease (pathogenesis), the associated altered structure and function (pathology and pathophysiology) and characteristic pathologic and laboratory manifestations.
 - c) Common epidemiologic and risk factors for diseases population health and the role and impact of psychological, behavioral, social, economic, and cultural factors on health and disease.
 - d) The ethical, legal, gender, psychological, social, interpersonal, sexual health, and economic issues that impact health and medical care.
- 2) Basic skills, including the ability to:
 - a) Perform and record a complete and accurate history, sensitive to patient needs and the nature of the Situation.
 - b) Perform and record an accurate and complete physical examination and mental status examination sensitive to patient needs and the nature of the situation.
 - c) Analyze a patient's clinical presentation, linking to biomedical and health concepts, develop an appropriate diagnostic and therapeutic plan, appropriately using information resources, laboratory and imaging testing.

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- d) Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the healthcare team, understanding the role of consultations and referrals.
- e) Communicate and interact with patients in an effective, respectful, and compassionate manner, including counseling them on risks, prevention, lifestyle and therapy issues.
- f) Obtain, analyze, and use the medical literature and other information resources to address medical questions and to sustain professional growth and apply techniques of population health, including methods of analysis of the health and health problems of defined populations and development of interventions to improve the health of populations.

Throughout training, a candidate must demonstrate medical professionalism including ethical behavior, moral reasoning, honesty, integrity, dependability, and commitment to service and health equity.

Students who complete the undergraduate medical education program obtain an unqualified medical degree. The students must pass: 1) all courses in the undergraduate medical curriculum to acquire essential knowledge and develop skills needed for competent medical practice, and 2) two certifying medical licensure examinations (USMLE, Steps 1 and 2-CK and CS).

Medical education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behavior. Thus, in addition to academic requirements, technical standards have been established for admission and graduation from Morehouse School of Medicine.

These standards are published in the student handbook and define aptitude, abilities and skills in the following areas: observation, communication, motor coordination of function, conceptual, intellectual-conceptual, integrative and quantitative abilities, behavioral and social attributes.

Due to the unique mission of the institution, particular effort is made to promote graduate education in primary care areas. In this regard, another objective of the undergraduate program is to have the majority of graduates choose residency training in primary care specialties. Through training sites in rural and inner-city areas, students also discover the special needs of patients in those areas that are historically underserved with regard to physician care. Through achievement of these objectives, graduates of the MD program will be equipped to: 1) enter and complete programs of graduate medical education, 2) qualify for medical licensure, and 3) provide competent, sensitive medical care. In addition, they should have acquired the motivation and skills necessary for continued learning and for understanding the evolving primary healthcare needs of underserved patient populations.

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Technical Standards for Medical School Admissions and Graduation

Medical education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behavior. Medical school faculties have a responsibility to society to matriculate and graduate the best possible physicians, and thus, admission to medical school has been offered to those who present the highest qualifications for the study and practice of medicine. Technical standards have been established as prerequisites for admission to and graduation from MSM. All courses in the curriculum are required in order to develop essential skills required to become a competent physician.

Graduates of medical school must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care. Morehouse School of Medicine acknowledges Section 504 of the 1973 Vocational Rehabilitation Act and PL 101-336, the Americans with Disabilities Act (ADA), but ascertains that certain minimum technical standards must be present in the prospective candidates.

A candidate for the MD degree must have aptitude, abilities, and skills in five areas: 1) observation, 2) communication, 3) motor, 4) conceptual, integrative and quantitative, and 5) behavior and social. Technological compensation can be made for some handicaps in these areas, but a candidate should be able to perform in a reasonably independent manner.

- Observation necessitates the functional use of the sense of vision and other sensor modalities. The candidate must be able to observe demonstrations and participate in experiments in the basic sciences. The candidate must also be able to observe a patient accurately at a distance and close at hand.
- Communication includes not only speech but reading and writing. A candidate must be able to communicate effectively and sensitively with patients and all members of the healthcare team.
- Candidates should have sufficient motor functions to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers. A candidate should be able to do basic laboratory tests, carry out diagnostic procedures, and read EKGs and X-rays. A candidate should be able to execute motor movements reasonably required to provide general care and emergency treatment to patients. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.
- Intellectual, integrative, and quantitative abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving, the critical skill demanded of physicians, requires all of these intellectual abilities. In addition, the candidate should be able to comprehend three-dimensional relations and to understand the spatial relationships of structures.
- Candidates must possess the behavioral and social attributes required for full use of their intellectual abilities. The exercise of good judgment, prompt completion of all responsibilities attendant to the diagnosis and care of patients, and the development of mature, sensitive, and effective relationships with patients are important.

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- Candidates must be able to tolerate physically taxing workloads and to function effectively when stressed. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. (Adopted from the College of Medicine at the University of South Florida Technical Standards.)

Learning Communities

Students in the MD program are placed in longitudinal learning communities at the start of first year. These eight learning communities (Knowledge, Wisdom, Excellence, Compassion, Integrity, Leadership, Innovation and Service) are linked to curricular elements in the Fundamentals of Medicine course. Led by faculty mentors and student leaders, these communities have both curricular and extra-curricular roles. Through participation in these communities, students address residency competencies in teamwork, communication, professionalism, and life-long learning skills. These communities foster peer-to-peer mentoring as well as faculty to student mentoring.

Curriculum

The educational program offered by Morehouse School of Medicine which leads to the Doctor of Medicine (MD) degree, focuses both on scientific medicine and on meeting the primary healthcare needs of patients who are underserved. Most of the first and second-year classes are offered in the Hugh Gloster Basic Medical Sciences Building on the main campus. Clinical experience begins in the first-year with clinical preceptorships in private offices. Clinical experience is continued in a state-of-the-art clinical skills training lab located in the National Center for Primary Care located on the main campus. Learning through community service is also an element of the first-year curriculum. In addition, clinical preceptorships in health clinics and physicians' offices are part of the educational program. The entire first-year curriculum extends over ten and one-half months.

Students may elect to participate in the five-year program or may be directed to do so on the basis of performance. This decelerated curriculum allows three years to complete the first two years of the basic sciences curriculum. The second-year of the curriculum begins in mid-August and concludes with the United States Medical Licensing Examination, Step 1 (USMLE, Step 1). The ten-month curriculum includes course work in clinical medicine taught in affiliated hospitals and clinics.

The academic schedule for the third year begins in early July and ends in late June. During this twelve-month period, students must complete all of the following clerkships: Surgery, Family Medicine, Psychiatry, Internal Medicine, Pediatrics, Obstetrics and Gynecology, and a longitudinal full year course, Fundamentals of Medicine 3.

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The academic schedule for the fourth year begins in early July and ends in late April. During this ten-month period, students must complete the remaining required course, the Senior Selective. The MD Curriculum and Evaluation Committee has decided that MSM acting internship programs or ICU electives satisfy the requirement. Some ambulatory rotations, including Rural Primary Care, may also satisfy the requirement. Students must complete an additional 6 electives, of which 4 must be clinical electives. The electives program, which must be approved for each student in order to ensure a balanced program, may include electives at other LCME accredited medical schools.

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Curriculum for the Doctor of Medicine Program

| | Jun-Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | |
|-----|---|--|------|-----------------|--------------|--------------|--|--|-------|------------|---|---------|
| MD1 | Fundamentals of Medicine 1 (Human Values, Health and wellness, Epidemiology/Biostatistics, Human Behavior, Community preceptorship, clinical skills) | | | | | | | | | | | |
| | Community Health (service-learning course) | | | | | | | | | | | |
| | Basic Principles (BP) Biochemistry & Metabolism Cell Structure Early Embryology Cellular Physiology Molecular Biology Basic Biology | Organ Systems 1 (OS1) Musculoskeletal Cardiovascular Respiratory Gastrointestinal Systems Metabolism & Nutrition Thorax & Upper Limb | | | Winter break | | | Organ Systems 2 (OS2) Renal Endocrine & Reproductive Systems Lower Limbs & Pelvis | | | Organ Systems 3 (OS3) Head & Neck Anatomy Neurobiology Neuroanatomy Neurophysiology | |
| | | | | | | | | | | | | |
| MD2 | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | | |
| | Fundamentals of Medicine 2 (FOM2)--clinical skills | | | | | Winter break | Fundamentals of Medicine 2 (FOM2)--clinical skills | | | | | Exams |
| | Microbiology-Immunology | | | | | | Microbiology-Immunology | | | | | |
| | Pharmacology | | | | | | Pharmacology | | | | | |
| | Pathology | | | | | | Pathology | | | | | |
| | Pathophysiology | | | Pathophysiology | | | Pathophysiology | | | | | |
| MD3 | July | August | Sept | October | November | December | January | February | March | April | May | June |
| | Medicine | | FM | | Psychiatry | | winter break (2 weeks) | OB/Gyn | | Pediatrics | | Surgery |
| | Fundamentals of Medicine 3 | | | | | | Fundamentals of Medicine 3 | | | | | |

Medical Degree

Curriculum for the Doctor of Medicine Program

| | Jul/Aug | Aug/Sep | Sep/Oct | Oct/Nov | Nov/Dec | | Jan | Jan/Feb | Feb/Mar | Apr | May |
|-----|------------|-------------|--------------|-------------|------------|--------------|-------------|--------------|---------------|-------------|------------|
| MD4 | Rotation I | Rotation II | Rotation III | Rotation IV | Rotation V | winter break | Rotation VI | Rotation VII | Rotation VIII | Rotation IX | Rotation X |

Prior 3rd year schedule

| | July | August | Sept | October | November | December | | January | February | March | April | May | June |
|-----|----------------------------|--------|------|---------|----------|------------|------------------------|----------------------------|------------|-------|---------|-----|------|
| MD3 | Medicine | | | FM | | Psychiatry | winter break (2 weeks) | OB/Gyn | Pediatrics | | Surgery | | |
| | Fundamentals of Medicine 3 | | | | | | | Fundamentals of Medicine 3 | | | | | |

MD PROGRAM

Medical Degree

FIRST YEAR CURRICULUM

| Fall and Spring Semesters | | Semester Credit Hours |
|---|----------|-----------------------|
| Molecules, Structures, Mechanisms Curriculum | | |
| MEDI 530 Basic Principles | (Unit 1) | 10.0 |
| MEDI 531 Organ Systems 1 | (Unit 2) | 10.0 |
| MEDI 532 Organ Systems 2 | (Unit 3) | 10.0 |
| MEDI 533 Organ Systems 3 | (Unit 4) | 10.0 |
| MEDI 509 Community Health | | 4.0 |
| MEDI 511 Fundamentals of Medicine 1 | | <u>7.0</u> |
| Total Credit Hours = | | 51.0 |

First-Year Course Descriptions

MEDI 530-533 Molecules, Structures, Mechanisms Curriculum (40 hours)

Molecules, Structures, and Mechanisms is an integrated curriculum across the first-year that combines classroom, lab, small group, and self-directed study to cover the basic principles of biochemistry, physiology, and anatomy in an organ-systems organization. The course is organized into four units:

| | | |
|------------------|----------|------------|
| Basic Principles | (Unit 1) | (10 hours) |
| Organ Systems 1 | (Unit 2) | (10 hours) |
| Organ Systems 2 | (Unit 3) | (10 hours) |
| Organ Systems 3 | (Unit 4) | (10 hours) |

Within these units, core themes of biochemistry, histology and cell biology, embryology, physiology, gross anatomy, neurobiology, and normal behavior are integrated. The overarching theme is normal human biology. Curriculum Director, Brenda Klement, PhD.

MEDI 530 Basic Principles of Human Biology (10 Credit hours)

This course presents the core principles of biochemistry, cell structure and biology, basic embryology, and basic cellular physiology. The following topics are presented: structures of biological compounds, pH and buffers, protein structure, hemoglobin and myoglobin, enzyme kinetics and mechanisms, intermediary metabolism and regulation, bioenergetics, cellular physiology, organization and structure of cells, and basic tissue types. July-September, Course Director: Bill Roth, PhD (letter grade).

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MEDI 531 Organ Systems 1 (10 Credit hours)

Building on the content of basic principles, this course presents an integrated introduction to structure and function of the organ systems. This course includes musculoskeletal (with emphasis on back and upper extremity), cardiovascular, respiratory, and gastrointestinal systems, including histology, embryology, gross anatomy, and physiology. Instructional methods include lecture, gross lab, demonstrations, problem sessions, case-based, and self-directed study. September- December, Course Director: Amy Lovejoy Mork, PhD Prerequisite—Completion of MEDI 530. (letter grade)

MEDI 532 Organ Systems 2 (10 Credit hours)

Building on the content of Organ Systems 1, this course continues instruction in histology, embryology, physiology and gross anatomy of the organ systems, continuing with renal, endocrine, gonadal/pelvic (with lower extremity), hematologic and other systems. Instructional methods include lecture, gross lab, demonstrations, problem sessions, case-based and self-directed study. January-March. Course Director: Sridaran Rajagopala, PhD Prerequisite—completion of MEDI 531. (letter grade)

MEDI 533 Organ Systems 3 (10 Credit hours)

This course completes the first year Organ systems sequence with head, neck and nervous systems. The basic anatomy and physiology of the central nervous system are integrated in this course. The major portion of the course is organized by systems, i.e., sensory (e.g., visual, auditory), motor, limbic and autonomic. In the laboratory, gross and microscopic sections of the brain and spinal cord are studied, and head and neck are dissected. March-May. Course Director: John W. Patrickson, PhD Prerequisite—completion of MEDI 532. (letter grade)

MEDI 509 Community Health (4 credit hours)

This unique, community-based course minimizes lectures, relying primarily on a format of assigning students to small interdisciplinary groups that pursue health promotion activities in inner city communities in Atlanta. In the fall semester, students analyze the health problems of their designated community, and develop and present policy recommendations to faculty and the center staff. In the spring, students develop health promotion interventions to address the community needs previously identified. Course Director: Desiree Rivers, MD, MPH (September–May) (letter grade)

MEDI 511 Fundamentals of Medicine 1 (7 credit hours)

Fundamentals of Medicine 1 is a first-year course sequence that combines the courses, Clinical Preceptorship, Human Values 1, Human Behavior, and Epidemiology and Biostatistics into a year-long inter-disciplinary sequence. This sequence introduces students to the health care system, primary care practice, core clinical skills, ethics, aspects of normal human behavior, communication skills, and principles of biostatistics and epidemiology, and personal health promotion. The course sequence integrates clinical areas to enhance the student's development and retention of core knowledge and skills in these areas. This course is interdisciplinary with core faculty from Medical Education,

Medical Degree

Community Health, Family Medicine, and Psychiatry. This course also links to our learning community experiences. Course sequence director: Martha Elks, MD, PhD: Course Directors Martha Elks, MD, PhD, Nicole Cotton, MD, Mary Davis, (July–May) (letter grade).

Clinical Preceptorship Component

For most students, the Preceptorship Program is a student’s first exposure to patient care. This experience allows students to view the practice of medicine and the healthcare system through the eyes of both the physician and the patient. The component helps students learn to develop empathetic patient relationships. Students experience the practice of primary care medicine in several different urban and rural settings involving Family Practice, Internal Medicine, Pediatrics and Obstetrics and Gynecology. The recognition of community problems is stressed as well as the support systems available to approach these problems. Course Component Director: Mary Davis, MPH.

Epidemiology and Biostatistics Component

This course covers methods including epidemic investigations, study design, Bayes, Theorem, and hypothesis testing. Instructional methods include lecture, discussion, problem solving, and computer- based tutorials. The course includes computer-based tutorials. Course Component Director: Martha Elks, MD, PhD.

Human Behavior Component

This course sequence covers the human life cycle from birth to death, with a focus on normality and adaptive behavior. It includes historical evaluation of psychiatric nomenclature and the efforts to define with increasing precision deviation from normality. Course Component Director: Nicole Cotton, MD.

Learning communities

MD program student longitudinal learning communities are linked to the FOM 1, 2, & 3 sequence. In these groups, students work with faculty mentors to build career insight, communication and interpersonal skills, teamwork and communication skills.

SECOND YEAR CURRICULUM

| Course | Semester Credit Hours |
|--------------------------------------|------------------------------|
| MEDI 600 Pathophysiology | 7.0 |
| MEDI 602 Microbiology and Immunology | 7.0 |
| MEDI 603 Pharmacology and Toxicology | 7.0 |

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| | |
|-------------------------------------|-------------|
| MEDI 606 Pathology | 12.0 |
| MEDI 611 Fundamentals of Medicine 2 | <u>8.0</u> |
| Total Credit Hours = | 42.0 |

*Pass/Fail Course

MEDI 600 Pathophysiology (7 credit hours)

This is a two-semester course designed not only to cover mechanisms of disease, but also to develop students' clinical reasoning abilities. It is intended to be a year-long USMLE Step 1 review and, as such, integrates the basic sciences with clinical topics as well as integration between the basic sciences. The course is taught in an interactive case-based format where student participation and initiative are crucial to success. Student evaluation is based on performance on USMLE-type multiple choice questions and team-based learning sessions. Course Director: Janice Herbert-Carter, MD (October- May) (letter grade).

MEDI 602 Medical Microbiology and Immunology (7 credit hours)

This course covers all of the agents of infectious diseases, the nature of the infections they cause, host responses and the natural and clinical defenses against infectious diseases. The goal of this course is to provide the student sufficient conceptual and practical knowledge of Medical Microbiology and Immunology to enter clinical training or preparation for more advanced study of infectious diseases. Prerequisite: Satisfactory completion of the first-year undergraduate medical education curriculum. Course Director: Michael Powell, PhD (August-May) (letter grade).

MEDI 603 Medical Pharmacology and Toxicology (7 credit hours)

Medical Pharmacology and Toxicology is a course for second- year medical students and graduate students. The course lectures include: introduction to the principle of pharmacokinetics (how the body acts on the drug) and pharmacodynamics (how the drug acts on the body) and a survey of major classes of therapeutic agents with emphasis on their mechanism(s) of action and therapeutic use(s), adverse effects and drug interactions. The department also incorporates lectures, small group-sessions (patient-oriented problem solving; peer assisted learning), case studies, clinical correlation conference and objective-based examinations into the course. Prerequisite: Satisfactory completion of medical courses in biochemistry and physiology. Course Director: Karen Randall, PhD, Ward Kirlin, PhD, (August-May) (letter grade).

Medical Degree

MEDI 606 Pathology (12 credit hours)

This is a required course for medical students. It introduces the student to the study of disease and serves as a bridge between the basic and clinical sciences. The first part of the course covers general processes in pathology that are common to many diseases, including cell and tissue reactions to injury, neoplasia, and non-organ specific disorders such as genetic diseases, immune diseases, environmental disorders, infections, and nutritional diseases. The remainder of the course involves discussions of organ-specific disease states (systemic pathology). Specifically, the course covers causes, pathogenetic mechanisms, morphologic and functional effects of diseases, and relates these to the patient in terms of prevention, diagnosis, natural history, course and prognosis.

The course also incorporates principles relating effective use of the clinical laboratory in the diagnosis of selected diseases. An important aspect of the course is the introduction to the language of medicine and correct use of medical terminology. Teaching methods include lectures, simulated clinical case discussions, and laboratory sessions utilizing computer-simulated cases, fixed gross specimens, glass slides, color prints and transparencies. The case simulations allow the student to correlate clinical information with the morphology. These case vignettes also allow the student to begin to organize clinical data from various sources in order to solve clinical problems and strengthen skills in clinical reasoning. Prerequisite: Satisfactory completion of Medical School courses in Human Morphology, Biochemistry, Neuroscience, and Medical Physiology. Course Director: Marjorie Smith, MD (August-May) (letter grade).

MEDI 611 Fundamentals of Medicine 2 (8 credit hours)

This course includes Introduction to Patient Care (IPC), Physical Diagnosis, Human Values 2, and Psychopathology components. This course builds on the understanding of the doctor-patient relationship and interviewing skills. Large group meetings are held in the Fall for discussion, demonstration, and practice of the physical examination. For the remainder of the year, students are divided into small groups under the direction of the clinical faculty for the study of medical history-taking, physical examination, and the oral and written patient presentation. Individual patient assignments on the medical wards are supplemented by small group sessions. Course Directors: Khadeja Johnson, MD, Martha Elks, MD, PhD; Pediatrics Director, David Levine, MD; Gynecology Director, Hedwig Saint-Louis, MD (August-May) Psychopathology Director: Quentin Ted Smith, MD (letter grade).

Human Values 2 Component

Human Values II builds on Human Values I in presentations, discussions and group presentations, with an emphasis on cultural competence, cultural appreciation, domestic and other violence, and personal and family impacts of death. Course Director: Khadeja Johnson, MD.

Medical Degree

Psychopathology Component

Students are introduced to techniques of psychiatric and psychological assessment, to the most common psychiatric disorders and emergencies, to crisis intervention, and to psychopharmacology. A survey of the relationship of psychiatry and the applied behavioral sciences of other disciplines and specialties is provided. Medical students should become sensitized to a variety of social and cultural problems infringing on patients and physicians in receiving and delivering healthcare services, such as sexual dysfunctions, substance abuse, sexism, racism, and poverty. Prerequisite: Satisfactory completion of Fundamentals of Medicine I. Course Sequence Director: Quentin Ted Smith, MD (January-March).

THIRD YEAR CURRICULUM

| Required Clerkships | Semester | Credit Hours |
|---|-------------|---------------|
| MEDI 700 Internal Medicine | 10.0 | (12 weeks) |
| MEDI 701 Pediatrics | 10.0 | (8 weeks) |
| MEDI 703 Obstetrics/Gynecology | 10.0 | (8 weeks) |
| MEDI 704 Psychiatry | 8.0 | (6 weeks) |
| MEDI 705 Surgery | 10.0 | (8 weeks) |
| MEDI 707 Family Medicine and Rural Health | 8.0 | (6 weeks) |
| MEDI 711 Fundamentals of Medicine 3 | 2.0 | |
| MEDI 713 Career Exploration | <u>5.0</u> | (2 x 2 weeks) |
| Total Credit Hours = | 63.0 | |

Third-Year Course Descriptions

MEDI 700 Third Year Clerkship in Internal Medicine (10 credit hours)

Students spend a 12-week rotation on the medical inpatient services of Grady Memorial Hospital and the Atlanta VA Medical Center, and ambulatory subspecialty experience. The students collect the database, formulate the problem list, devise the initial plans and follow each patient in a problem-oriented fashion. To a large extent the students have primary responsibility for their patients, working under the close supervision of house staff and faculty. Under the direction of house staff, students will work as an integral member of a service team consisting of an attending faculty member, senior resident, two interns and another student. Each student makes rounds, presents patients to the attending faculty, and takes calls every fifth night. Each student completely works up two or three new patients

Medical Degree

per week during the two-month rotation. Student goals are to learn how to collect data, identify and define individual components and clarify their relationship to each other, apply pathophysiologic principles to the clinical setting, organize problems for solution and follow them systematically through to their resolution. Course Director: Marvin L. Crawford, MD (July-July) (letter grade)

MEDI 702 Third Year Clerkship in Obstetrics and Gynecology (10 credit hours)

Obstetrics and Gynecology spans the entire age range of the female patient and is extensively health-oriented with emphasis on prevention of illness and on surgical and obstetrical techniques. Students participate actively in the prenatal intrapartum and postpartum care of normal and abnormal obstetrical patients. They are actively involved with the diagnosis and treatment of minor and major gynecological problems in the outpatient department and on the hospital wards. Students are also exposed to the different obstetrical and gynecological subspecialties, including maternal fetal medicine, oncology, reproductive endocrinology and infertility. Course Director: Jamil Harp MD (July-July) (letter grade).

MEDI 703 Third Year Clerkship in Pediatrics (10 credit hours)

Oriented to Primary Care Pediatrics in medically underserved settings, this required clerkship features a three-week ambulatory placement in a community private practice or a Kaiser or WellStar Office. The inpatient section of the course includes a two-week rotation at Children's Healthcare of Atlanta at Hughes Spalding or Scottish Rite and a one-week service in Neonatology at Gwinnett Medical Center. Finally, there are two community/subspecialty weeks where students spend time in either subspecialty offices or clinics. There are also two half-days weekly for case discussions, computer based clinical simulations, and other classroom activities. The clerkship is largely based on a national curriculum developed by the Council on Medical Student Education in Pediatrics and the Ambulatory Pediatrics Association. Clerkship Director: David A. Levine, MD (July-July) (letter grade).

MEDI 704 Third Year Clerkship in Psychiatry (8 credit hours)

This is a seven-week rotation during the third year. Emphasis is on the clinical application of principles of psychiatry and aberrant behavior learned in the first two years. Students are assigned rotations at Ridgeview Institute, a psychiatric service facility; The Atlanta VA Medical Center, an in/outpatient hospital; Georgia Regional Hospital/Atlanta, a public psychiatric facility; and Peachford Behavioral Healthcare System, a psychiatric and addictive disease treatment inpatient hospital. Atlanta VA and Georgia Regional Hospital

Medical Degree

offer a broad spectrum of psychiatric disorders in both inpatient and outpatient settings. Clinical responsibilities include performing admission histories and psychiatric examinations, formulating psychodynamic aspects of the case, psychiatric differential diagnosis and actively participating in the psychotherapeutic and psychopharmacologic treatment and management of patients. Students attend and participate in rounds and ward teaching conferences.

Students also participate in group therapy to gain further insight into the psychiatric problems of patients and their families. A clinical case teaching conference is held weekly with an attending physician to demonstrate interview techniques, discuss differential diagnosis, and to allow for in-depth discussion of psychodynamics of selected patients. A lecture series addresses clinical aspects of the diagnosis and treatment of the major psychiatric disorders. Some selected topics are interviewing skills, emergency psychiatry, behavioral medicine, psychopharmacology, suicide, substance abuse, and forensic issues. Prerequisite: Promotion to the third year. Course Director: Nicole Cotton, MD (July-July) (letter grade)

MEDI 705 Third Year Clerkship in Surgery (10 credit hours)

Third Year Clerkship in Surgery is a required eight-week rotation offered for all students who successfully complete all Basic Science requirements. The rotation is under the guidance of Morehouse School of Medicine, Department of Surgery's clinical faculty at Grady Memorial Hospital. Emphasis is on the use of basic science principles, while developing clinical diagnosis and management skills. Students are expected to participate fully in the diagnosis, treatment, and management of patients on the surgical teams, including in-house call. Didactic lectures, conferences and rounds are mandatory. Participation in the operating room is under the supervision of residents and faculty attending. Mini rotations in pediatric surgery, urology, and otorhinolaryngology give students subspecialty experience. Students participate in a suture workshop during the first week of the Clerkship. The didactic lectures/ workshops will cover General Surgery and its subspecialties. MCQ computer administered exams are given as a part of the student evaluation. Interim Course Director: Jacqueline Turner, MD (July-July) (letter grade)

MEDI 707 Third Year Clerkship in Family Medicine and Rural Health (8 credit hours)

The Family Medicine clerkship is a required eight-week clerkship. It is designed to meet the educational objectives in Family Medicine, Pediatrics, and Obstetrics and Gynecology. The student will have the opportunity to evaluate acute and chronic medical problems that frequently occur in the community. Even though the emphasis is on the development of effective clinical skills in the ambulatory patient care setting, experiences in the direct care of patients on family medicine hospital services, including labor and delivery, are also provided. Students are assigned a prenatal patient and expected to participate in delivery.

Medical Degree

Sites may include the Morehouse Medical Associates Family Medical Center and Comprehensive Family Healthcare Center, the offices of practicing family physicians, community health centers, and South Fulton Medical Center/Atlanta Medical Center – two merged hospitals -- where students serve as sub-interns. Providing healthcare for senior citizens, adolescents, and obstetrical patients is strongly emphasized. Course Director: Dolapo Babalola, MD (July–July) (letter grade)

MEDI 711 Fundamentals of Medicine 3 (2 credit hours)

This is a yearlong inter-disciplinary/multi-disciplinary seminar course that meets weekly across the third year. This course continues the multi-disciplinary, multi-theme and interactive approach of Fundamentals of Medicine 1 and 2. All third-year students participate in this year-long sequence of weekly 1 1/2 hour sessions covering a variety of topics. Among the areas covered are the health care system, diagnostic imaging, medical decision making and evidence-based medicine, professionalism and ethics, subspecialty areas, applied basic sciences, rehabilitation and career planning, exam preparation, and related topics. Instruction is by case discussion, lecture, in-class exercises, demonstrations, clinicopathologic conference, presentations, skills sessions, focused assignments and selected readings. The course addresses inter-disciplinary and subspecialty topics that are key in the practice of medicine, but not otherwise covered in other clerkships. Course Directors: Martha Elks, MD, PhD and David Levine, MD (July–July) (letter grade)

MEDI 713 Career Exploration (5 credit hours)

The Career Exploration experience is a 2 week mentorship experience in a variety of career fields as selected by the student (July–July) (Pass/Fail).

FOURTH YEAR CURRICULUM

| Required Clerkships | Semester | Credit Hours |
|-----------------------------|-----------------|---------------------|
| Senior selective* | 5.0 | (4 weeks) |
| **Elective Rotations | <u>25.0</u> | (28 weeks) |
| Total Credit Hours = | 35.0 | |

*Medicine Ward service, Surgery Ward service, Obstetrics Ward service, Inpatient Pediatrics Acting internship, Medical Intensive care unit, Surgical Intensive care unit, Ambulatory Adult Health, Rural Health, **Pass/Fail Course

Medical Degree

Fourth-Year Course Descriptions

Elective Courses are detailed in a separate electives catalog.

Morehouse School of Medicine reserves the right to terminate or modify program requirement content, and the sequence of program offerings from semester to semester or year to year, for educational reasons which it deems sufficient to warrant such actions.

Further, MSM reserves the right to terminate programs for financial or other reasons which it determines warrant such action. The content, schedule, requirements, and means of course presentation may be changed at any time by the School of Medicine for educational reasons which it determines are sufficient to warrant such action. Programs, services, or other activities of the School may be terminated at any time due to reasons beyond the control of the School including but not limited to, acts of God, natural disasters, destruction of premises, labor disturbances, governmental order, financial insolvency, or other reasons or circumstances beyond the control of the School of Medicine.

Academic Regulations

Academic policies, academic requirements, and objectives for specific courses within each of the phases of the curriculum are determined by the teaching faculty responsible for the course, subject to approval by the MD Program Curriculum and Evaluation Committee and the Academic Policy Council.

The determination of grades is the responsibility of the course director and faculty team having jurisdiction over a course. Course directors provide grading policies for their courses at the beginning of each course. These policies allow students to understand how grades are calculated and to evaluate their academic standing at any time. Grades may be based on performance on written or oral examinations, standardized testing, papers, presentations, faculty evaluation, attendance and other factors. Non-cognitive performance, including maturity, demeanor, cooperation, responsibility, ethics, and similar attributes are also factors in the assessment of performance. For each required course and clerkship, students will be expected, as a professional duty, to provide feedback regarding their experiences and perceptions about the content covered, methods of presentation, and the effectiveness of presentations. All curricula and policies must be approved by the Curriculum and Evaluation Committee (CEC). The CEC and course directors in cooperation with the Student Academic Progress and Promotion Committee set criteria for remediation and/or repeat of failed courses.

Medical Degree

Class Attendance and Examination Policy

Class attendance rules are established by individual course directors or instructors; however, class attendance is expected. Attendance throughout the clinical clerkships and other clinical experiences involving patient care is required. Excessive absences will result in incomplete or no credit for clinical experiences. Laboratory assignments are usually cooperative endeavors, thus absenteeism of one student is an imposition on others. If excessive, such absenteeism is regarded as a serious breach of conduct.

Attendance is required for some specific sessions and courses. Attendance is mandatory for tests and final exams. Excused absence from an examination must be obtained from the Dean of Student Affairs prior to the examination or upon documentation of illness or other emergency taking place at the time of the examination. An unexcused absence from an examination will constitute a failure on the examination. Whether an absence is excused is determined only by consultation of the course director with the Dean of Student Affairs. Examinations to make-up a deficiency due to an excused absence can be scheduled only in the week following final examinations.

Student promotion from one year to the next, recommendations for repeat of courses, or recommendations of dismissal are based upon academic performance in courses as well as upon evaluation of professional attitude and judgment, emotional health, fiscal responsibility, character and professional ethics, as determined by the Student Academic Progress and Promotions Committee of MSM.

Satisfactory performance on the United States Medical Licensing Examination, Step 1 (USMLE, Step 1) is required for promotion to the third year. A total passing score satisfies this criterion for promotion.

Similarly, in order to qualify for receipt of the MD degree from MSM, students must record an overall passing score on the United States Medical Licensing Examination, Step 2 (CK and CS) (USMLE, Step 2).

Requirements for the Degree of Doctor of Medicine

The course of medical education for the Doctor of Medicine degree ordinarily consists of a minimum of four years of study. Students recommended for the degree of Doctor of Medicine shall have completed an entire course of instruction as matriculated medical students, and must have demonstrated the knowledge, skills, maturity, emotional stability and integrity judged by the faculty to be essential to an effective physician. Each student must pass both Step 1 and Step 2 CK and CS of the USMLE as a requirement for graduation. Upon completion of the curricular requirements, the degree is awarded following the recommendation of the Promotions Committee, the Faculty, the Dean and the approval of the Board of Trustees. Candidates must have discharged all current indebtedness to the School to qualify for graduation.

Medical Degree

Morehouse School of Medicine confers the MD degree in May and December of each year. However, there is only one Commencement Exercise in May of each year. All students must complete all requirements for receipt of the MD degree within one month of the diploma date in order to receive a diploma.

Honors in Community Service/ Honors in Translational Neurobiology

Students who demonstrate excellence in the first-year Community Health course are invited to participate in the Honors in Community Service Program. This mentored program involves additional community service and planning, executing, evaluating and reporting on a community service project. Students receive recognition of this honor at graduation.

A second program, Honors in Translational Neurobiology combines a research experience in clinical or bench neuroscience along with translation of findings to the community through community presentations, empowerment, or both. This mentored program combines work with the Neuroscience Institute with the Center for Service Learning. Students receive recognition of this honor at graduation.

Dual Degrees

Students have pursued combined degrees including, but not limited to MD, PhD, MD, MSCR, and MD, MPH. Information on the curricula and courses of these degree programs are outlined in the Graduate Education in Biomedical Sciences (PhD, MSCR) and Public Health Education (MPH) sections of the catalog.

Morehouse School Of Medicine



GRADUATE EDUCATION



Graduate Education in Biomedical Sciences (GEBS)

Graduate Education in Biomedical Sciences

<http://www.msm.edu/Education/GEBS/index.php>

| | |
|--------------------------------------|--------------------------------|
| Associate Dean for Graduate Studies: | Douglas F. Paulsen, PhD |
| Program Director, MSBR: | Karen Russell-Randall, PhD |
| Program Director, MSBT: | James Lillard, PhD |
| Program Director, MSCR: | Alexander Quarshie, MBChB, MSc |
| Program Director, MSMS: | Rita Finley, PhD |
| Program Director, MSNS (BS-MS): | Morris Benveniste, PhD |
| Program Director, PhD: | Ward Kirlin, PhD |
| Assistant Dean for GEBS: | Danita Eatman, PhD |

Overview

MSM is accredited by the Southern Association of Colleges and Schools. The Graduate Education in Biomedical Sciences Program offers programs of study leading to the M.S. in Biomedical Research (MSBR), M.S. in Biotechnology, M.S. in Clinical Research (MSCR), M.S. in Medical Sciences (MSMS), B.S./M.S. in Neuroscience, and PhD in Biomedical Sciences. The first PhD was awarded in 1998. The M.S. programs are newer, accepting our first MSCR students in 2002, first MSBR students in 2008, the B.S./M.S in Neuroscience dual degree program was introduced in 2014 and the online MSBT in 2019. The primary goal of these programs is to produce scientists, especially individuals underrepresented in science, well trained to teach and conduct biomedical research. Our first MSMS students enrolled in 2012. The MSMS program is designed to enrich and prepare students for entry into advanced health-professions training (e.g., medical school). MSM-trained biomedical scientists are encouraged to have a special commitment to resolving diseases that disproportionately affect underserved populations and educating underrepresented minority students. The mission is a key factor in guiding the selection of applicants for admission and in developing the program curricula.

These graduate programs are overseen by the Graduate Education in Biomedical Sciences Committee (GEBSC), a committee of the graduate faculty, which sets program policy and serves in an advisory capacity to the MSM Academic Policy Council in general and to the Associate Dean for Graduate Studies in particular.

Graduate Education in Biomedical Sciences (GEBS)

The **PhD in Biomedical Sciences** program is designed to develop independent investigators capable of assuming leadership roles in academic, government, and corporate biomedical research. It involves a core-didactic curriculum followed by extensive faculty-guided dissertation research directed toward contributing new discoveries that will advance the field in which the student is interested. The program provides a broad background in the basic biomedical sciences and advanced training in specific fields pertinent to human health.

The **M.S. in Clinical Research** program is a broad-based multi-disciplinary graduate level program in clinical research designed to prepare clinical faculty, senior residents, doctorate-level non-MSM faculty, undergraduate/masters-level students, and current MSM PhD or MD students for a career in clinical and translational research. The program provides training in the principles and methods of biostatistics, epidemiology, genetics and clinical trials, outcomes research, health services research, health economics and application of these principles and methods to clinical research. A Multidisciplinary Clinical and Translational Research (MCTR) program is also offered to address the needs of a variety of trainees who will participate as members of multidisciplinary research teams.

The **M.S. in Biomedical Research** program provides a core-didactic and thesis-based curriculum for college graduates seeking a terminal, thesis-based Master's degree or considering the future pursuit of doctoral degrees in research or the health sciences. The program allows students to obtain a graduate degree; further explore career options in the biomedical sciences; document their ability to handle graduate-level coursework; and conduct a mentored research project in an area of interest to them. Some coursework completed for the MSBR program may be applicable toward the requirements for the PhD program at MSM if the student subsequently gains admission to that program.

The **M.S. in Medical Sciences** program is an interdisciplinary degree. It may be used as a stand-alone degree by students seeking career enhancement in fields such as the pharmaceutical industry or the health science professions; by students seeking credentials in the biomedical sciences as a preliminary to applying for medical school or other health sciences professional programs; or by students seeking to enhance their knowledge base and exposure prior to choosing a career direction. The program challenges students in advanced-level graduate courses, provides support for improving MCAT scores, helps develop an understanding of available careers in the health professions, provides diverse clinical experiences, improves communications skills through writing workshops and mock interviews, improves study methods, and assists in improving strategies for developing successful applications to health professions programs.

The **M.S. in Neurosciences** program provides a core-didactic and thesis-based curriculum with an emphasis in the area of Neuroscience. This degree program offers an option of earning a Bachelor of Science along with a Master of Science degree (BS/MSNS) or a Master of Science degree. The BS/MSNS requires successful completion of two years of specified course work towards the Bachelor of Sciences degree from an undergraduate institution in the Atlanta University Center. Candidates must complete the MS curriculum requirements along with requirements for their Bachelor of Science degree at their institution. The Master of Science degree is available to those who hold an

Graduate Education in Biomedical Sciences (GEBS)

undergraduate degree. The program will allow students to obtain a terminal, thesis-based Master's degree or consider pursuit of a doctoral degree in Neuroscience. Students will conduct a mentored research project in the area of Neuroscience.

The online **M.S. in Biotechnology** program is a non-thesis degree program that provides a foundation in the scientific and business components needed to advance biotechnologies. The goal of the MSBT program is to develop comprehensive knowledge in bioscience, core technologies, and analytical methods used to support biotechnology enterprises. This 35-credit hour, 12-month online degree is designed to give working professionals the flexibility to pursue advance training in biotechnology by offering comprehensive coursework and training needed for career advancement.

The **M.S. in Clinical Research/PhD in Biomedical Sciences** dual-degree program is designed to develop outstanding students as independent investigators capable of assuming leadership roles in clinical and translational research in academic, government, or corporate environments. It includes graduate-level coursework from both the MSCR and PhD programs as well as extensive faculty-guided dissertation research that includes clinical and/or translational studies. Students may apply to enter this program after their first year in either the PhD or MSCR program.

Training leading toward both the **MD and PhD in Biomedical Sciences** degrees is available to medical students interested in pursuing both degrees at MSM. This program requires completion of the full medical curriculum, a modified didactic component for the PhD curriculum, as well as extensive faculty-guided dissertation research in basic and/or clinical sciences. Qualified medical students may enter this program after completing their first two years of preclinical training. After completing additional PhD coursework, students embark on their dissertation research and then return to medical school for their clinical training once that research has been completed.

Graduate Education in Biomedical Sciences (GEBS)

Application Process

Application instructions and application forms for GEBS degree programs (**PhD, MSBR,MSBT, MSCR and MSMS**) can be viewed at <https://www.applyweb.com/mh2/>. Applicants must apply online by setting up a secure account. This system allows you to work on your application, save your work, and return until you're ready to submit. There is a \$50 non-refundable application fee for all GEBS degree programs. Applicants seeking admission to the all GEBS degree programs must:

- Hold a baccalaureate degree or the equivalent from an accredited undergraduate institution.
- Have a record of superior academic achievement in undergraduate studies in the natural sciences (e.g., biology, chemistry, or physics).

Other application requirements are program-specific

The Graduate Record Exam (GRE) General Exam is not required for PhD, M.S.B.R., M.S.C.R. and M.S.N.S. applicants. However, students may elect to submit scores as part of an overall application for review. Scores cannot be older than 5 years.

Applicants to the MSCR/PhD Dual-Degree program must have successfully completed the first-year core curriculum for either the MSCR or PhD degree with a GPA of 3.0 or better.

MSMS Applicants must meet the following criteria:

- 3.0 GPA
- One year of general or inorganic chemistry
- One year of organic chemistry (or one semester of organic chemistry and one semester of biochemistry)
- One year of college mathematics (at least college algebra)
- Medical College Admissions Test (MCAT) scores no older than three years

Application Deadlines

- PhD applications for fall admission are due by January 15.
- MSBR, MSCR and MSNS applications for fall admission are due by April 15.
- MSMS applications for fall admission are due by April 30.
- MSCR applications for continuing MSM students to an MSCR dual degree program are due by April 15 (this might change based on funding source).

Graduate Education in Biomedical Sciences (GEBS)

Additional information about program content and degree requirements may be obtained by calling the Office of Graduate Education in Biomedical Sciences at (404) 752-1569, by sending an email to GEBS@msm.edu, or by sending your request to the address below. Please specify which program you are inquiring about.

Graduate Education in Biomedical Sciences
Morehouse School of Medicine
720 Westview Drive SW
Atlanta, GA 30310-1495

International Applicants

Additional requirements for international applicants are included on the web pages listed above for application instructions. If you have difficulty accessing this document online, you may request that a copy be sent by email through one of the contact points listed above.

Selection Criteria and Selection Process

Selection of applicants for the graduate degree programs in the biomedical sciences is competitive. Applications are evaluated by the appropriate Admissions Committee. The evaluations are based on undergraduate and graduate background, general academic performance and academic performance in the sciences in particular. In addition, letters of reference from former or current science instructors and research mentors are important in judging a student's preparedness for graduate study.

For the PhD, MSBR, MSCR, and MSNS programs, prior research experience is recommended but is not required. For all programs, qualified applicants are invited for interviews which are required for admission to graduate study. After considering the applicants for each class, the Admissions Committee forwards its recommendations to the Associate Dean, who offers admission based on the Committee's recommendations, the availability of space in the program, and the availability of funding.

Graduate Education in Biomedical Sciences (GEBS)

DOCTOR OF PHILOSOPHY in BIOMEDICAL SCIENCES

Program Director: Ward Kirlin, PhD

Requirements for the PhD Degree

Coursework

The first year of study is focused on instruction in core (required) courses covering fundamental aspects of cell, tissue, and organ system structure and function, as well as biochemistry, molecular biology and biomedical genetics. An integrate biomedical course that provides background information and examples of research in areas of active interest to MSM research faculty is also required. The core curriculum introduces methods, instrumentation, ethics, critical thinking, and writing skills critical to success as a professional scientist. Students are required to earn a B in each of their core courses to advance in the program and to maintain stipend support. At the end of the first year, students identify an advisor for their advanced study and research. Students may study with graduate faculty in a variety of basic science and clinical departments conducting basic and translational biomedical research. Current areas of focus include AIDS and infectious diseases, cancer, cardiovascular disease, cell biology, molecular biology, neuroscience, reproductive biology, temporal (circadian) biology, and vision research. The student's research advisor must be a member of MSM's graduate faculty. Once an advisor is identified, students take elective courses and begin gaining research experience in the advisor's laboratory. Elective courses must be selected with the approval of the research advisor to assure an adequate knowledge base for the field of study chosen.

Qualifying Exam

The program exam for the PhD in Biomedical Sciences involves 3 parts: 1) the Core Comprehensive Exam (CCE); 2) the elective competency; and 3) the oral defense of the dissertation proposal. The CCE is administered at the end of the first year of study (in June for students who entered the previous fall). The exam includes closed-book essay questions from the core courses written by the course directors. A minimum score of 80% is required on each section to pass this comprehensive exam.

Once students have passed the CCE, they select an advisor who will help them select their elective courses, their dissertation research project, and their dissertation committee. The second part of the program examination is the qualifying exam process involving the written and oral examination of the dissertation proposal. The development of a formal dissertation research proposal describing the background, experimental design, methods, and timeline for the student's dissertation research. The written dissertation will be evaluated by the dissertation committee prior to the oral examination of the dissertation proposal. Details of the examination will be discussed with the student prior to examination. Committee approval of both the written proposal and oral presentation of the proposal constitutes successful completion of the qualifying exam.

Graduate Education in Biomedical Sciences (GEBS)

Degree Candidacy

Students having earned a B or better in their graduate course work and having passed all parts of their qualifying exam are eligible to apply for degree candidacy. After earning candidacy, students will expend most of their effort completing their dissertation research and preparing their dissertation. During the conduct of the dissertation research, the student is required to convene regular (once per semester minimum) meetings of the dissertation committee to report progress, receive direction, and earn dissertation research credit.

Completion of Degree Requirements

Once the dissertation research is completed to the satisfaction of the student's committee, the student must prepare a written dissertation describing the background, approach, and results of the work, including a discussion of the significance of the findings in advancing scientific knowledge. Successful dissertation research must constitute a significant, original contribution to scientific knowledge as judged by the dissertation committee. After the dissertation has reached its final stages, the student must, with the approval of the committee, schedule a public presentation and defense of the work. The student's committee will determine whether the student has successfully defended the dissertation. The committee often requires final adjustments to the written dissertation after a successful oral defense. Upon successfully defending the dissertation and the final modifications accepted by the committee, the student will submit their final written dissertation to the electronic repository.

Graduate Education in Biomedical Sciences (GEBS)

Curriculum for the PhD in Biomedical Sciences*

FIRST YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|---------------|---|-----------------------|
| GEBS 517 | Graduate Biochemistry | 3 |
| GEBS 517L | Graduate Biochemistry Lab | 2 |
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication I | 2 |
| GEBS 513 | Laboratory rotation I | 1 |

| Spring Semester | | Semester Credit Hours |
|-----------------|--|-----------------------|
| GEBS 537 | Integrated Biomedical Sciences | 4 |
| GEBS 528 | Biomedical Genetics | 3 |
| GEBS 535 | Human Biology | 3 |
| GEBS 546 | Critical Thinking and Scientific Communication II | 2 |
| GEBS 514 | Laboratory Rotation 2 (6 weeks) | 1 |
| GEBS 503 | Seminar in Biomedical Sciences I | 1 |

SECOND-YEAR CURRICULUM

| Course | Semester Credit Hours | |
|-----------|---|-------------------|
| GEBS 528L | Biomedical Genetics Lab | 2 |
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 610 | Preparing a Research Proposal | 2 |
| GEBS 504 | Seminar in Biomedical Sciences II | 1 |
| GEBS 505 | Seminar in Biomedical Sciences III | 1 |
| GEBS 509 | Biomedical Sciences Presentation I | 1 |
| | Elective(s) | TBD (8 h minimum) |
| GEBS 749 | Supervised Research (Prior to candidacy) | TBD |

Graduate Education in Biomedical Sciences (GEBS)

| | | |
|----------|---|--------------------|
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 h minimum) |
|----------|---|--------------------|

THIRD-YEAR CURRICULUM

| Course | | Semester Credit Hours |
|----------|---|-----------------------|
| GEBS 506 | Seminar in Biomedical Sciences IV | 1 |
| GEBS 507 | Seminar in Biomedical Sciences V | 1 |
| GEBS 510 | Biomedical Sciences Presentation II | 1 |
| | Elective(s) | TBD (8 minimum) |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

FOURTH-YEAR CURRICULUM**

| Course | | Semester Credit Hours |
|----------|---|-----------------------|
| GEBS 508 | Seminar in Biomedical Sciences VI | 1 |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

***The PhD curriculum is subject to ongoing revisions and may change during a student's tenure, including changes that may affect graduation requirements.*

***Depending on the rate of progress toward achieving research goals, dissertation research often continues beyond the fourth-year of matriculation in the PhD program. The student's dissertation committee determines when, and whether, sufficient research has been successfully completed to merit the PhD degree*

Graduate Education in Biomedical Sciences (GEBS)

MASTER OF SCIENCE in CLINICAL RESEARCH

Program Director:

Alexander Quarshie, MBChB, MS

Requirements for the MSCR Degree

Coursework

The Master of Science in Clinical Research program is designed to allow the trainees to complete the Clinical Research Education and Career Development (CRECD) program in 15 or 24 months. Trainees who elect the 15-month option will devote at least 75% effort to the program. The schedule is sufficiently flexible to allow optimum participation of students and instructors. Trainees with ongoing clinical responsibilities will be best served by flexibility in the access to didactic teaching materials and interchanges with faculty. E-learning facilities will be provided to address this challenge, and enhance the training experience. The didactic coursework is structured to provide mastery of the fundamentals of Clinical Research, in the traditional disciplines of epidemiology, biostatistics, data analysis and clinical trials. A unique course has been developed that will challenge the trainees from incorporating social science and behavior theory concepts to understanding health disparities. The course will also cover ethical issues in clinical research, the legacy of the Tuskegee experiments, and their impact on participation by African Americans in Clinical Research.

Practical Skills Workshop

A required practical skills workshop series consists of an introduction to principles and practices of clinical research. The practical skills workshop series is offered during the Fall semester of the first year. This series is designed to help trainees begin work on their mentored projects. Topics covered include: introduction to clinical research, SAS, GIS, obtaining research support and grant funding mechanisms, proposal development, study designs, analysis of secondary data, cultural competency, career development, human subject advocacy, proposal submission process and grant administration.

Clinical Research Seminar Series

This monthly series features CRECD trainees, Morehouse School of Medicine instructors, consultants, and mentors as well as distinguished outside speakers.

Trainees will have an opportunity to gain exposure to a variety of role models from within, as well as outside the Morehouse School of Medicine community. Trainees will also present their work for critical review and comments. This format will expose the trainees to contemporary critical thinking on health disparities, generate new ideas, and foster research collaboration within Morehouse School of Medicine and other collaborating institutions.

Mentored Research Project

The mentored research project will account for 12 of the 36 credit hours required for successful completion of the MS in Clinical Research. Applicants to the MSCR

Graduate Education in Biomedical Sciences (GEBS)

program will develop research proposals in consultation with their clinical chairs and/or research mentors and submit them for review and approval by the Curriculum Committee. The proposal will form the basis for the mentored research project.

Minimum Entrance Requirements for the Categories of MSCR Students

MSM faculty/senior residents or NIH, CRECD-funded applicants:

- Faculty appointment at MSM (7 years or less)
- Must be U.S. citizens or have permanent resident visa status
- Letter from the chair of your department
- Must have a terminal degree
- Three individual letters from persons who are capable of speaking to your professional skills and goals
- Two- to three-page research abstract or narrative
- Applicant and lead mentor NIH style biosketch
- Fully completed online application

Doctorate Level - Non-MSM Faculty:

- Terminal degree
- Three individual letters from persons who are capable of speaking to your professional skills and goals
- Two- to three-page research abstract or narrative
- Applicant and lead mentor NIH style biosketch
- Fully completed online application

Undergraduate/Master's Level

- Bachelor's Degree
- Narrative on research interest or experience (can be substituted for narrative on application)
- Two letters of professional reference
- Lead mentor NIH-style biosketch (if applicable)
- Official transcript
- Fully completed online application

Current PhD or MD student

- Good academic standing
- One letter from mentor stating their commitment to be your lead mentor while in the program
- One additional letter of reference
- Lead mentor NIH style biosketch
- Two- to three-page research abstract or narrative
- Fully completed online application

Curriculum for the MS in Clinical Research*

FIRST YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|----------------------|----------------------------------|------------------------------|
| GEBS 502 | Principles of Clinical Research | 2 |
| GEBS 511 | Clinical Research Seminar (P/F) | 1 |
| GEBS 524 | Fundamentals of Biostatistics | 3 |
| GEBS 516 | Mentored Research Project (P/F) | 1 |
| GEBS 550 | Practical Skills Workshop Series | 1 |

| Spring Semester | | Semester Credit Hours |
|------------------------|---|------------------------------|
| GEBS 522 | Clinical Trials | 2 |
| GEBS 520 | Multivariate Analysis | 3 |
| GEBS 511 | Clinical Research Seminar (P/F) | 1 |
| GEBS 516 | Mentored Research Project (P/F) | 1 |
| GEBS 500 | Introduction to Epidemiology | 3 |
| GEBS 532 | Community Engagement and Health Disparities | 2 |

SECOND-YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|----------------------|---|------------------------------|
| GEBS 523 | Scientific Writing and Communication | 3 |
| GEBS 501 | Medical Informatics | 2 |
| GEBS 516 | Mentored Research Project (L/G) | 3 |
| GEBS 512 | Ethics of Clinical Research in Vulnerable Populations | 2 |
| GEBS 511 | Clinical Research seminar | 0 |

| Spring Semester | | Semester Credit Hours |
|------------------------|---------------------------------|------------------------------|
| GEBS 516 | Mentored Research Project (L/G) | 9 |
| GEBS 511 | Clinical Research Seminar | 0 |

Graduate Education in Biomedical Sciences (GEBS)

PhD in BIOMEDICAL SCIENCES/MS in CLINICAL RESEARCH DUAL DEGREE

| | |
|----------------------|-------------------------------|
| Program Co-Director: | Douglas F. Paulsen, PhD, FAAA |
| Program Co-Director: | Alexander Quarshie, MBChB, MS |

Coursework

Students may enter this dual-degree program through either PhD or M.S.C.R. enrollment after completing the first year of study in either program. In both cases, application to the dual-degree program is required. Because core coursework for each separate program is required, the order in which the coursework is completed depends on the program of initial entry. In either case, two years of coursework are required to complete the core curriculum. The core courses included in this program are those found in the individual programs. Because the core courses in each program satisfy the elective requirements for the other, no additional elective courses are required, although students may take additional electives if they choose. The program is designed to be completed in six years.

Qualifying Exam

The program exam for the PhD in Biomedical Sciences component of the dual degree involves 2 parts: 1) the Core Comprehensive Exam (CCE) and 2) the Dissertation Proposal. The CCE is administered at the end of the first year of PhD study (in June for students who entered the previous fall). The exam includes closed-book essay questions by the directors of the Core Courses. A minimum score of 80% is required on each section to pass this comprehensive exam.

The second part of the program exam is the qualifying exam. The qualifying exam process is the development of a formal dissertation research proposal describing the background, experimental design, methods, and timeline for the student's dissertation research. For MSCR/PhD students, at least one specific aim of the dissertation proposal must involve clinical or translational research as judged by their dissertation committee and the dual-degree program directors. After submitting the proposal in the required format, the student will defend it in an oral presentation to their dissertation committee. Committee approval of both the written proposal and oral presentation of the proposal constitutes successful completion of the second part of the qualifying exam.

Degree Candidacy

Students having earned a B or better in their graduate course work and having passed all parts of their qualifying exam are eligible to apply for degree candidacy. After earning candidacy, students will expend most of their effort completing their dissertation research and preparing their dissertation. During the conduct of the dissertation research, the student is required to convene regular (once per semester minimum) meetings of the dissertation committee to report progress, receive direction, and earn dissertation research credit hours.

Graduate Education in Biomedical Sciences (GEBS)

Completion of Degree Requirements

Once the dissertation research is completed to the satisfaction of the student's committee, the student must prepare a written dissertation describing the background, approach, and results of the work, including a discussion of the significance of the findings in advancing scientific knowledge. Successful dissertation research must constitute a significant, original contribution to scientific knowledge as judged by the dissertation committee. Once the dissertation has reached its final stages, the student must, with the approval of the committee, schedule a public presentation and defense of the work. The student's committee will determine whether the student has successfully defended the dissertation. The committee often requires final adjustments to the written dissertation after a successful oral defense. Once the dissertation has been successfully defended and the final modifications accepted by the committee, copies of the final document must be submitted to the graduate office to complete the requirements for the dual degree.

Curriculum for the PhD in Biomedical Sciences/MS in Clinical Research dual degree *

OPTION 1: For students entering through the PhD Program

FIRST YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|-----------------|--|-----------------------|
| GEBS 517 | Graduate Biochemistry | 3 |
| GEBS 517L | Graduate Biochemistry Lab | 2 |
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication I | 2 |
| GEBS 513 | Laboratory Rotation 1 (6 weeks) | 1 |
| Spring Semester | | Semester Credit Hours |
| GEBS 537 | Integrated Biomedical Sciences | 4 |
| GEBS 528 | Biomedical Genetics | 3 |
| GEBS 546 | Critical Thinking and Scientific Communication II | 2 |
| GEBS 535 | Human Biology | 3 |
| GEBS 514 | Laboratory Rotation 2 (6 weeks) | 1 |

Graduate Education in Biomedical Sciences (GEBS)

SECOND-YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|----------------------|--|------------------------------|
| GEBS 528L | Biomedical Genetics Lab | 2 |
| GEBS 550 | Practical Skills Workshop | 1 |
| GEBS 524 | Fundamentals of Biostatistics | 3 |
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 511 | Clinical Research Seminar (Substitutes for GEBS 503) | 1 |
| GEBS 516-1 | Mentored Research Project | 1 |
| GEBS 502 | Principles of Clinical Research | 2 |

| Spring Semester | | Semester Credit Hours |
|------------------------|---|------------------------------|
| GEBS 500 | Introduction to Epidemiology | 3 |
| GEBS 522 | Clinical Trials | 2 |
| GEBS 511 | Clinical Research Seminar (Substitutes for GEBS 504) | 1 |
| GEBS 610 | Preparing a Research Proposal | 2 |
| GEBS 516-2 | Mentored Research Project | 1 |
| GEBS 520 | Analysis of Frequency Data | 3 |
| GEBS 532 | Community Engagement and Health Disparities in Clinical and Translational Research | 2 |

THIRD-YEAR CURRICULUM

| Course | Semester Credit Hours | |
|---------------|--|------------------|
| GEBS 501 | Introduction to Medical Informatics | 2 |
| GEBS 512 | Ethics of Clinical Research in Vulnerable Populations | 2 |
| GEBS 523 | Scientific Writing and Communication | 3 |
| GEBS 505 | Seminar in Biomedical Sciences III | 1 |
| GEBS 506 | Seminar in Biomedical Sciences IV | 1 |
| GEBS 509 | Biomedical Sciences Presentation I | 1 |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

Graduate Education in Biomedical Sciences (GEBS)

FOURTH-YEAR CURRICULUM

| Course | | Semester Credit Hours |
|----------|---|-----------------------|
| GEBS 507 | Seminar in Biomedical Sciences V | 1 |
| GEBS 508 | Seminar in Biomedical Sciences VI | 1 |
| GEBS 510 | Biomedical Sciences Presentation II | 1 |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

FIFTH-YEAR CURRICULUM**

| Course | | Semester Credit Hours |
|----------|---|-----------------------|
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

Curriculum for the MS in Clinical Research/PhD in Biomedical Sciences*

OPTION 2: For students entering through the MSCR Program

FIRST-YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|---------------|--|-----------------------|
| GEBS 550 | Practical Skills Workshop | 1 |
| GEBS 524 | Fundamentals of Biostatistics | 3 |
| GEBS 511 | Clinical Research Seminar (Substitutes for GEBS 503) | 1 |
| GEBS 516-1 | Mentored Research Project | 1 |
| GEBS 501 | Introduction to Medical Informatics | 2 |
| GEBS 502 | Principles of Clinical Research | 2 |

Graduate Education in Biomedical Sciences (GEBS)

| Spring Semester | | Semester Credit Hours |
|------------------------|---|------------------------------|
| GEBS 500 | Introduction to Epidemiology | 3 |
| GEBS 522 | Clinical Trials | 2 |
| GEBS 511 | Clinical Research Seminar (Substitutes for GEBS 504) | 1 |
| GEBS 516-2 | Mentored Research Project | 1 |
| GEBS 520 | Multivariate Analysis | 3 |
| GEBS 513 | Laboratory Rotation 1 (6 weeks) | 1 |
| GEBS 532 | Community Engagement and Health Disparities in Clinical and Translational Research | 2 |

SECOND YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|----------------------|---|------------------------------|
| GEBS 517 | Graduate Biochemistry | 3 |
| GEBS 517L | Graduate Biochemistry Lab | 2 |
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication I | 2 |

| Spring Semester | | Semester Credit Hours |
|------------------------|--|------------------------------|
| GEBS 537 | Integrated Biomedical Sciences | 4 |
| GEBS 528 | Biomedical Genetics | 3 |
| GEBS 546 | Critical Thinking and Scientific Communication II | 2 |
| GEBS 610 | Preparing a Research Proposal | 2 |
| GEBS 514 | Laboratory Rotation 2 (6 weeks) | 1 |
| GEBS 535 | Human Biology | 3 |

Graduate Education in Biomedical Sciences (GEBS)

THIRD-YEAR CURRICULUM

| Course | | Semester Credit Hours |
|-----------|---|-----------------------|
| GEBS 512 | Ethics of Clinical Research in Vulnerable Populations | 2 |
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 523 | Scientific Writing and Communication | 3 |
| GEBS 528L | Biomedical Genetics Lab | 2 |
| GEBS 505 | Seminar in Biomedical Sciences III | 1 |
| GEBS 506 | Seminar in Biomedical Sciences IV | 1 |
| GEBS 509 | Biomedical Sciences Presentation I | 1 |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

FOURTH-YEAR CURRICULUM

| Course | | Semester Credit Hours |
|----------|--|-----------------------|
| GEBS 507 | Seminar in Biomedical Sciences V | 1 |
| GEBS 508 | Seminar in Biomedical Sciences VI | 1 |
| GEBS 510 | Biomedical Sciences Presentation II | 1 |
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

FIFTH-YEAR CURRICULUM**

| Course | | Semester Credit Hours |
|----------|--|-----------------------|
| GEBS 800 | Dissertation Research (Requires candidacy) | TBD (25 minimum) |

**The MSCR/PhD curriculum is subject to ongoing revisions and may change during a student's tenure, including changes that may affect graduation requirements.*

***Depending on the rate of progress toward achieving research goals, dissertation research may continue beyond the fifth-year of matriculation in the MSCR/PhD program. The student's dissertation committee determines when, and whether, sufficient research has been successfully completed to merit the MSCR/PhD degree. A clinical and/or translational specific aim must be included in the dissertation.*

Graduate Education in Biomedical Sciences (GEBS)

MASTER OF SCIENCE in BIOMEDICAL RESEARCH

Program Director: Karen Randall, PhD

Requirements for the MSBR Degree

Coursework

The first semester of study is focused on instruction in core (required) courses covering fundamental aspects of cell, tissue, and organ system structure and function, as well as biochemistry and molecular biology. It also introduces methods, instrumentation, ethics, critical thinking, and writing skills critical to success as a professional scientist. Students are required to maintain a B average in their coursework to advance in the program. In the second semester students take elective courses and identify an advisor for their advanced study and research. Students may study with graduate faculty in a variety of basic science and clinical departments conducting basic biomedical research. Current areas of focus include AIDS and infectious diseases, cancer, cardiovascular disease, cell biology, molecular biology, neuroscience, reproductive biology, temporal biology, and vision research. The student's research advisor must be a member of the MSM graduate faculty. Once an advisor is identified, students gain research experience in the advisor's laboratory.

Completion of Degree Requirements

Once the thesis research is completed to the satisfaction of the student's committee, the student must prepare a written thesis describing the background, approach, and results of the work, including a discussion of the significance of the findings in advancing scientific knowledge. Successful thesis research must constitute a significant, original contribution to scientific knowledge as judged by the thesis committee. After the thesis has reached its final stages, the student must, with the approval of the committee, schedule a public presentation and defense of the work. The student's committee will determine whether the student has successfully defended the thesis. The committee usually requires final adjustments to the written thesis after a successful oral defense. Upon successfully defending the thesis and the final modifications accepted by the committee, the student will submit their final written thesis to the electronic repository.

Graduate Education in Biomedical Sciences (GEBS)

Curriculum for the MS in Biomedical Research*

FIRST YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|---------------|--|-----------------------|
| GEBS 517 | Graduate Biochemistry | 3 |
| GEBS 517L | Graduate Biochemistry Lab | 2 |
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication I | 2 |
| GEBS 513 | Laboratory Rotation 1 (4 weeks) | 1 |

| Spring Semester | | Semester Credit Hours |
|-----------------|---|-----------------------|
| GEBS 535 | Human Biology | 3 |
| GEBS 546 | Critical Thinking and Scientific Communication II | 2 |
| GEBS 514 | Laboratory Rotation 2 (4 weeks) | 1 |
| | Elective(s) | TBD (4 h minimum) |
| GEBS 503 | Seminar in Biomedical Sciences | 1 |

SECOND-YEAR CURRICULUM

| Course | | Semester Credit Hours |
|----------|------------------------------------|-----------------------|
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 504 | Seminar in Biomedical Sciences II | 1 |
| GEBS 509 | Biomedical Sciences Presentation I | 1 |
| | Elective(s) | TBD (4 h minimum) |
| GEBS 675 | Thesis Research** | TBD (12 h minimum) |

**The M.S. curriculum is subject to ongoing revisions and may undergo changes during a student's tenure, including changes that affect graduation requirements.*

*** The student's thesis committee determines when, and whether, sufficient research has been successfully completed to merit the M.S. degree. A minimum of 12 hours of Thesis Research is required for the degree*

Graduate Education in Biomedical Sciences (GEBS)

MASTER OF SCIENCE in BIOMEDICAL TECHNOLOGY

Program Director: James Lillard, PhD

Requirements for the MSBT Degree

The Master of Science in Biotechnology degree provides a foundation in the scientific and business components needed to advance biotechnologies. The goal of the MSBT program is to develop comprehensive knowledge in bioscience, core technologies, and analytical methods used to support biotechnology enterprises. This 35-credit hour, 12-month online degree is designed to give working professionals the flexibility to pursue advance training in biotechnology by offering comprehensive coursework and training needed for career advancement.

Minimum Academic Requirements

1. Applicants must hold a baccalaureate degree from an accredited undergraduate institution.
2. Preferred record of superior academic achievement in undergraduate studies majoring in natural sciences and/or engineering.
3. Successful completion of college mathematics coursework.
4. One year work experience, preferably in the field of biotech industry, government, or academia to include teaching in a science related area.
5. Two (2) signed letters of recommendation, preferably from science course professors if recent graduate or laboratory or manufacturing supervisors.
6. Completed online application.

Curriculum for the MS in Biotechnology

Spring Semester

Semester Credit

Term I – 8 weeks

| | | |
|-----------|--|---|
| GEBS 500E | Cell Biology (OL) | 3 |
| GEBS 505E | Introduction to the Biotechnology Industry | 2 |

Term II – 8 weeks

| | | |
|-----------|-------------------------------------|---|
| GEBS 503E | Introduction to Biostatistics | 3 |
| GEBS 502E | Critical Thinking and Communication | 2 |

Graduate Education in Biomedical Sciences (GEBS)

Summer Semester

Semester Credit

Term I – 8 weeks

| | | |
|-----------|------------------------------------|---|
| GEBS 508E | Biochemistry (OL) | 3 |
| GEBS 501E | Research Ethics and Integrity (OL) | 2 |

Term II – 8 weeks

| | | |
|-----------|---|---|
| GEBS 509E | Basic Laboratory Safety and Good Laboratory and Manufacturing Practices | 2 |
| GEBS 510E | Molecular Biology | 3 |
| GEBS 607E | Project Management | 2 |

Fall Semester

Semester Credit

Term I – 8 weeks

| | | |
|-----------|-----------------------------------|---|
| GEBS 506E | Making Medicines | 2 |
| GEBS 511E | Making Devices | 2 |
| GEBS 608E | Intro to Bio-Medical Data Science | 3 |

Term II – 8 weeks

| | | |
|-----------|--|---|
| GEBS 512E | Genetics – Epigenetics, Gene Organization and Expression | 3 |
| GEBS 600E | Self-Directed Research Internship | 3 |

Knowledge

1. Demonstrate a broad knowledge of biosciences in scholarly discussions and collaborations with colleagues.
2. Demonstrate a broad understanding of core technologies needed for the support of research in biosciences.
3. Demonstrate a deep knowledge of analytical methods to provide expert solutions to a focused range of problems encountered in biotechnology projects.

Graduate Education in Biomedical Sciences (GEBS)

4. Demonstrate a general knowledge and understanding of the science, business, and management components needed to support biotechnology enterprises.

Skills

1. Use critical analysis to develop and test hypotheses, design experiments, and interpret solutions.
2. Use oral, written, and verbal skills to effectively communicate with a broad range of scientists and other stakeholders.
3. Apply quality assurance standards consistent with accepted statistical analysis techniques.
4. Demonstrate the ability to engage a team of peer experts in scholarly, interdisciplinary investigations.
5. Demonstrate the ability to accurately record and manage data as appropriate to the discipline. Demonstrate the ability to organize and lead research projects to effectively achieve goals and objectives of a biotechnology research & development (R&D) project.
6. Demonstrate the ability to organize and lead research projects to effectively achieve goals and objectives of a biotechnology research & development (R&D) project.
7. Integrate new emerging biotechnologies with existing methods.
8. Demonstrate the ability to translate research discoveries into products or services that promote health equity.

Attitudes

1. Demonstrate a commitment to the highest scientific standards and ethical conduct of biotechnology.
2. Demonstrate a commitment to integrate new emerging biotechnologies with existing methods to translate research discoveries into products or services that promote health equity.

Graduate Education in Biomedical Sciences (GEBS)

MASTER OF SCIENCE in MEDICAL SCIENCES

Program Director: Rita B. Finley, PhD

Requirements for the MSMS Degree

The Master of Science in Medical Sciences Degree is a two-year non-thesis program designed to increase competency in the biomedical sciences, thereby enhancing academic credentials for entry into medical school or placement into careers in the health sciences. The first year of study focuses on instruction in core science courses such as Biochemistry and Medical Histology, as well as foundational courses in the public health sciences such as Fundamentals of Public Health and Epidemiology. Additionally, the program includes a series of courses aimed at enhancing performance on the Medical College Admissions Test (MCAT) and includes an online course in Medical Terminology. In the second year, standardized exam preparation continues and introductory courses in key biomedical science courses are added such as Introduction to Neurobiology, Introduction to Medical Pharmacology and Introduction to Medical Microbiology. During the second year, in lieu of a thesis, a culminating project will be conducted.

Completing the Requirements

Students are required to maintain an overall 3.0 average in their coursework to advance in the program and to earn the degree.

Curriculum for the MS in Medical Sciences*

Traditional Track

FIRST YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|------------------------|--|------------------------------|
| GEBS 554 | Basic Biochemistry | 3 |
| GEBS 518 | Medical Histology I: Cells and Tissues | 3 |
| GEBS 541 | Critical Thinking and Problem Solving I | 3 |
| GEBS 544 | Survey of Medical Terminology | 1 |
| GEBS 545 | Introduction to Public Health | 2 |
| | | |
| Spring Semester | | Semester Credit Hours |
| GEBS 519 | Medical Histology II: Organs and Systems | 3 |
| GEBS 539 | Introduction to Health Professions | 2 |

Graduate Education in Biomedical Sciences (GEBS)

| | | |
|----------|--|---|
| GEBS 542 | Critical Thinking and Problem Solving II | 4 |
| GEBS 524 | Fundamentals of Biostatistics | 3 |
| GEBS 548 | Community Health Assessment | 3 |

SECOND-YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|---------------|-----------------------------------|-----------------------|
| GEBS 552 | Introduction to Neurobiology | 3 |
| GEBS 552L | Introduction to Neurobiology Lab | 2 |
| GEBS 601 | The Biology of Disease and Health | 3 |
| GEBS 500 | Introduction to Epidemiology | 3 |
| GEBS 553 | Basic Medical Microbiology | 3 |
| GEBS 650 | Culminating project I— | |

| Spring Semester | | Semester Credit Hours |
|-----------------|--|-----------------------|
| GEBS 551 | Introduction to Medical Pharmacology | 3 |
| GEBS 604 | Medical Genetics | 3 |
| GEBS 652 | Culminating Project II | 3 |
| GEBS # | Emergency Medicine Technician Training | |

MSMS 1-Year Accelerated Track Curriculum

| Summer Semester | | Semester Credit Hours |
|-----------------|---------------------------------------|-----------------------|
| GEBS 556 | Human Gross Anatomy | 4 |
| GEBS 542 | Critical Thinking and Problem Solving | 4 |
| GEBS 544 | Survey of Medical Terminology | 1 |

| Fall Semester | | Semester Credit Hours |
|---------------|--|-----------------------|
| GEBS 519 | Medical Histology I: Cells and Tissues | 3 |
| GEBS 552 | Introduction to Neurobiology | 3 |
| GEBS 552L | Introduction to Neurobiology Lab | 2 |

Graduate Education in Biomedical Sciences (GEBS)

| | | |
|----------|------------------------------|---|
| GEBS 554 | Basic Biochemistry | |
| GEBS 500 | Introduction to Epidemiology | 3 |

| Spring Semester | | Semester Credit Hours |
|------------------------|---|------------------------------|
| GEBS 519 | Medical Histology II: Organs and Systems | 3 |
| GEBS 551 | Introduction to Medical Pharmacology | 3 |
| GEBS 604 | Medical Genetics | 3 |
| GEBS 524 | Fundamentals of Biostatistics | 3 |
| GEBS 539 | Introduction to Health Professions – Scribe Training | 3 |

**The M.S. curriculum is subject to ongoing revisions and may undergo changes during a student's tenure, including changes that affect graduation requirements.*

Graduate Education in Biomedical Sciences (GEBS)

MASTER OF SCIENCE in NEUROSCIENCES

Program Director: Morris Benveniste, PhD

Requirements for the MSNS Degree

The Master of Science in Neurosciences Degree provides a core-didactic and thesis-based curriculum with an emphasis in the area of Neuroscience. This degree program offers an option of earning a Bachelor of Science along with a Master of Science degree (BS/MSNS) or a Master of Science degree. The BS/MSNS requires successful completion of two years of specified course work towards the Bachelor of Sciences degree from an undergraduate institution in the Atlanta University Center. Candidates must complete the M.S. curriculum requirements along with requirements for their Bachelor of Science degree at their institution. The Master of Science degree is available to those who hold an undergraduate degree. The program will allow students to obtain a terminal, thesis-based Master's degree or consider pursuit of a doctoral degree in Neuroscience. Students will conduct a mentored research project in the area of Neuroscience. Students are required to maintain an overall 3.0 average in their coursework to advance in the program and to earn the degree.

Curriculum for the MS in Neuroscience*

JUNIOR YEAR CURRICULUM

Fall Semester

| | | Semester Credit Hours |
|----------|------------------------------|-----------------------|
| GEBS 703 | Essentials in Neuroscience I | 4 |

Semester Credit Hours

Spring Semester

| | | |
|----------|-------------------------------|---|
| GEBS 704 | Essentials in Neuroscience II | 3 |
|----------|-------------------------------|---|

Semester Credit Hours

Summer Semester

| | | |
|----------|------------------------------------|---|
| GEBS 515 | Neuroscience Laboratory Techniques | 2 |
|----------|------------------------------------|---|

Semester Credit Hours

| | | |
|----------|---------------------------|---|
| GEBS 521 | Neuroscience Lab Rotation | 4 |
|----------|---------------------------|---|

Graduate Education in Biomedical Sciences (GEBS)

SENIOR YEAR CURRICULUM

Fall Semester Semester Credit Hours

| | | |
|----------|--|---|
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication | 2 |

Spring Semester Semester Credit Hours

| | | |
|----------|--|---|
| GEBS 705 | Essentials in Neuroscience III | 3 |
| GEBS 540 | Critical Thinking and Scientific Communication In Neuroscience | 2 |

MASTER-YEAR (BS/MSNS) CURRICULUM

Course Semester Credit Hours

| | | |
|----------|-----------------------------------|----|
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 509 | Biomedical Science Presentation I | 1 |
| GEBS 675 | Thesis Research | 22 |

MSNS (2-YEAR) CURRICULUM

Fall Semester Semester Credit Hours

| | | |
|-----------|--|---|
| GEBS 534 | Scientific Integrity | 2 |
| GEBS 533 | Critical Thinking and Scientific Communication | 2 |
| GEBS 547 | Research Data Analysis | 3 |
| GEBS 561L | Methods in Neuroscience | 2 |
| GEBS 703 | Essentials in Neuroscience I | 4 |

Spring Semester Semester Credit Hours

| | | |
|----------|-----------------------------------|---|
| GEBS 540 | Critical Thinking in Neuroscience | 2 |
| GEBS 704 | Essentials in Neuro II | 3 |

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| | | |
|----------|--------------------------------|---|
| GEBS 705 | Essentials in Neuro III | 2 |
| GEBS 503 | Seminar in Biomedical Sciences | 1 |
| | Elective | |

SECOND -YEAR CURRICULUM

| Fall Semester | | Semester Credit Hours |
|-----------------|-----------------------------------|-----------------------|
| GEBS 504 | Seminar in Biomedical Sciences II | 1 |
| GEBS 675 | Thesis Research | 8 |
| Spring Semester | | Semester Credit Hours |
| GEBS 509 | Biomedical Science Presentation I | 1 |
| GEBS 675 | Thesis Research | 8 |
| GEBS 998 | Thesis Defense | 0 |

**The M.S. curriculum is subject to ongoing revisions and may undergo changes during a student's tenure, including changes that affect graduation requirements.*

Graduate Education in Biomedical Sciences (GEBS)

GEBS Course Descriptions

GEBS 500: Introduction to Epidemiology (3 credit hour)

This course provides students with knowledge of patterns of disease occurrence in human populations and factors that influence these patterns. This course is designed to enable students to identify and use systematic procedures that are helpful in determining epidemiological relationships. Principles and methods of epidemiologic investigation, both of infectious and non-infectious diseases are discussed. Prerequisite: GEBS 524 Fundamentals of Biostatistics. Spring. Letter Grade. Course Director: Lee Caplan, MD, PhD, MPH.

GEBS 500E Cell Biology (3 credit hour)

This course covers cell organization and subcellular structure. Students examine the evolution of cells, chromosome and plasma membrane structures and behaviors, mechanics of cell division, sites of macromolecular synthesis and processing, transport across cell membranes, cell dynamics, organelle biogenesis, and cell specialization. Students are also introduced to the experimental techniques used in cell biology to study cell growth, manipulation, and evaluation. Letter Grade. Course Director: Rajesh Singh, PhD

GEBS 501 Introduction to Medical Informatics (2 credit hour)

This course will address using data from clinical information systems in performing clinical research, including the strengths and limitations of these data. Topics include: overview of medical informatics, discussion of the nature of computer-based data including medical vocabularies, large databases, the web, and confidentiality-related issues. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Fall. Letter Grade, Course Director: Ernest Alema-Mensah, PhD and Alexander Quarshie, MBChB, M.S.

GEBS 501E Research Ethics & Integrity (2 credit hour)

This course will present some of the most common ethical issues encountered in biomedical research and biotechnology. The objective of this course is to raise awareness of the ethical issues surrounding biotechnology and encourage critical and responsible consideration of research conduct. Topics covered will fall into three categories: 1) research integrity, 2) applied ethics in biological research and biotechnology, and 3) contemporary ethical issues arising from emerging biotechnologies. Each class will consist of lectures discussing specific examples relevant to topic categories and case studies presenting either a hypothetical scenario or a real-world event. Students are expected to identify opposing ethical perspectives, critically analyze each perspective, and suggest compromises and solutions when feasible, while using evidence to support their conclusions. Letter Grade. Course Director: Arletha Williams-Livingston, PhD

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GEBS 502 Introduction to Principles of Clinical Research (2 credit hour)

This course is offered in collaboration with NIH and delivered through video-conferencing. It provides an overview and introduction to the various types of clinical research including patient-oriented research, epidemiology, behavioral sciences and health services research, and introduction to evidence-based medicine for clinical researchers. The course introduces protocol design, mentoring development, and gathering of evidence, including decision analysis. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Fall. Letter Grade. Course Director: Alexander Quarshie, MBChB, M.S.

GEBS 502E Critical Thinking & Communication (2 credit hour)

This course develops students' ability to evaluate possibilities, identify patterns, and look at the same data in new ways (i.e., critical thinking), as these skills create a formidable advantage in academic, personal, and professional spheres. Students will learn the theory of argumentation and construct argument maps. Students will also focus on scientific data analysis and evaluation of peer-reviewed publications. Letter Grade. Course Director: Arletha Williams-Livingston, PhD

GEBS 503-508 Seminar in Biomedical Sciences I-VI (1 credit hour each)

Students are required to attend scientific seminars in biomedical research in order to keep up-to-date with the latest discoveries and developments in biomedical research. Students attend a minimum of 6 research seminars per semester, document their attendance, and write and submit a summary for each. Prerequisite: Enrollment in PhD, MSBR or MSNS program. Fall and Spring. Pass/Fail. Course Director: Danita Eatman, PhD

GEBS 503E Introduction to Biostatistics (3 credit hour)

This course introduces statistical concepts and analytical methods as applied to data encountered in biotechnology and biomedical sciences. It emphasizes the basic concepts of experimental design, quantitative analysis of data, and statistical inferences. Topics include: probability theory and distributions; population parameters and their sample estimates; descriptive statistics for central tendency and dispersion; hypothesis testing and confidence intervals for means, variances, and proportions; categorical data analysis; linear correlation and regression model; logistic regression; analysis of variance; and nonparametric methods. The course provides students with a foundation to critically evaluate information, support research objectives, product claims and better understand statistical design of experimental trials for biological products/devices. Letter Grade. Course Director: Mohamed Mubasher, PhD

GEBS 505E Introduction to the Biotechnology Industry (2 credit hour)

This course is designed to introduce students to the theory and practice of the biotechnology industry. In this course, students will be exposed to a variety of elements that make up the biotechnology industry. This course will provide a historical and technical overview of the developments in biotechnology. This will include fermentation, recombinant methods, protein drug engineering and manufacturing, genomics,

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proteomics, metabolomics and more. The approach taken for product and/or new venture launch will be covered to include: development costs, patenting, product safety and regulatory affairs, valuation, venture capital, and marketing. Letter Grade. Course Director: Bonnie Robeson, PhD

GEBS 506E Making Medicines (2 credit hour)

This course is designed for students to gain deeper insights into the drug discovery and development process. In this course, students will explore the regulatory environment under which drugs are developed, learn how patient insights inform drug development and clinical trials, and identify key stakeholders, including healthcare providers, and their contributions to drug development. Letter Grade. Course Director: Joshua Simon, PhD

GEBS 508E Biochemistry (3 credit hour)

This course explores the roles of essential biological molecules focusing on protein chemistry, while covering lipids and carbohydrates. It provides a systematic and methodical application of general and organic chemistry principles. Students examine protein synthesis, structure & function, how they interact with other molecules, and the methodologies for the purification and characterization of these essential molecules. Enzyme kinetics and mechanisms are covered in detail. Metabolic pathways are examined from thermodynamic and regulatory perspectives. This course provides the linkage between the inanimate world of chemistry with the living world of biology. Letter Grade. Course Director: Bonnie Robeson, PhD

GEBS 509 – 510 Biomedical Science Presentation I-II (1 credit hour each)

Students are required to prepare and give a scientific presentation (either seminar or poster format) at a public, advertised venue. PhD students are required to give two such presentations and MS students are required to give one prior to graduation. Qualified presentations include: One presentation at the Annual Curtis L. Parker Student Research Day, any one-hour seminar advertised to the MSM community and open to the public, or a platform or poster presentation at a national scientific conference accompanied by a published first-author abstract. This requirement is specifically in addition to the student's thesis or dissertation proposal and defense presentations Prerequisite: Enrollment in PhD, MSBR or MSBT program. Fall and Spring. Pass/Fail. Course Director: Doug Paulsen, PhD

GEBS 509E Basic Laboratory Safety & Good Laboratory & Manufacturing Practices (3 credit hour)

This course is designed to cover best practices in laboratory management and a comprehensive overview of regulatory affairs. Regulatory affairs comprise the rules and regulations that govern product development and post-approval marketing. In the U.S., the Food and Drug Administration (FDA) establishes and oversees regulations under several statutes in partnership with legislators, patients, and customers. Biotechnology products may be classified as small molecule drugs, biologics, or medical devices. Each type is regulated by a different center within the FDA. This course provides an overview of

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regulatory affairs and their effect on product development. Topics include regulatory history, regulatory agencies, how to access regulatory information, drug submissions, biologics submissions, medical device submissions, Good Laboratory Practices, Good Clinical Practices, Good Manufacturing Practices, and FDA inspection. Letter Grade. Course Director: Tamika Sims, PhD

GEBS 510E Molecular Biology (3 credit hour)

This course provides a comprehensive overview of the key concepts in molecular biology. Topics to be covered include: nucleic acid structure and function; DNA replication; transcription; translation; chromosome structure; and remodeling and regulation of gene expression in prokaryotes and eukaryotes. Extended topics to be covered include methods using recombinant DNA technology, microarrays, and microRNA. Letter Grade. Course Director: Rebecca McPherson, PhD

GEBS 511 Clinical Research Seminar (0-1 credit hour)

This course features local, regional, and national cutting-edge research topics relevant to health disparities, and allow trainees to hear from leading experts on clinical and translational research. The research seminars are presented by MSM faculty, Atlanta CTSI faculty and visiting scientists, and provide a forum to explore collaborative research and mentoring opportunities. MSCR Trainees are featured in a special session where they present their work for critical review and comments. This format exposes the trainees to contemporary critical thinking on health disparities to generate new ideas and to foster research collaboration within the Morehouse School of Medicine as well as with collaborating Atlanta CTSI institutions. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Pass/Fail. Course Directors: Alexander Quarshie, MBChB, M.S. and Rigobert Lapu Bula, MD, PhD

GEBS 511E Making Medical Devices (2 credit hour)

This course is intended to introduce students to the design process, tools and techniques to approach complex and multidimensional problems involving medical device development. Innovations from the laboratory go through multiple phases before, during, and after commercialization. For each phase, stakeholders have certain agendas and values. This course takes the students on a tour of stakeholder needs from the bench-top to final product launch. Students will learn how to understand and integrate the stakeholders' perspectives and influence the decision-makers at each phase of development and commercialization. Letter Grade. Course Director: Joshua Simon, PhD

GEBS 512 Ethics of Clinical Research in Vulnerable Populations (2 credit hour)

This course challenges trainees to incorporate social science and behavior theory concepts in understanding health disparities. This multidisciplinary course will provide social, cultural, and historical perspectives on the development of ethical standards for clinical research among special at-risk populations. Student appreciation of culture as a predominant force in shaping behavior and values will be enhanced. The course will help develop behaviors and skills for effectively recruiting and engaging patients from diverse cultural backgrounds, into health care research. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Fall. Letter Grade. Course Directors: Alexander Quarshie, MBChB, M.S. and Jacqueline Ali, M.S.

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GEBS 512E Genetics - Epigenetics, Gene Organization & Expression (3 credit hour)

Students use genetic analysis and molecular biology techniques to investigate chromosome organization, chromatin structure, functional genomics, and mechanisms of differential gene expression. Other topics include DNA methylation, silencers, enhancers, genomic imprinting, and microarray analysis. Prerequisites: Biochemistry and Molecular Biology. Letter Grade. Course Director: Tshaka Cunningham, PhD

GEBS 513-514 Laboratory Rotations I-II (1 credit hour each)

The objective of this course is to provide students with experiences that will allow them to make an informed choice with respect to the focus of their research or technical apprenticeship. A second objective is for the student to practice proper methods for logging research methods and results in a laboratory notebook. Each PhD student must complete two 6-week rotations and each MS student must complete two 4-week rotations. Prerequisite: Enrollment in PhD, MSBR or MSBT program. Fall and Spring. Pass/Fail. Course Director: Doug Paulsen, PhD

GEBS 515 Introduction to Neuroscience Laboratory Techniques (2 credit hour)

This a two-week intensive laboratory course for M.S. in Neuroscience students as a part of the B.S./M.S. in Neuroscience Program. The course is designed to expose students to laboratory techniques commonly used in today's biological laboratories. It will combine both lecture and practical laboratory experiences and include compulsory biohazard safety, and animal handling and care components. Techniques will include laboratory calculations, DNA, RNA, and PCR analyses, electrophoresis, Western blotting, immunohistochemistry, tissue culture, microscopy and neurophysiology. Prerequisite: Enrollment in BS/MS in Neuroscience Program. Spring. Pass/Fail. Course Directors: Robert Meller, D. Phil.

GEBS 516 Mentored Research Project (1-12 credit hour/semester)

This course provides an opportunity for students to integrate the competencies acquired in course work, learn how to write a research proposal, develop a research design, analyze data for presentation at a national scientific meeting and generate a scientific manuscript. Four major outcomes of the mentored project that must be satisfied prior to receiving the MSCR degree include 1) submission and presentation of an abstract at a regional or national scientific meeting, 2) submission of a manuscript to a peer-reviewed journal, 3) submission of a grant to a funding agency, and 4) final presentation of the student's mentored research. Mentor evaluation forms must be signed by the student's lead mentor indicating that all of the above requirements have been satisfied. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Fall and Spring. Year 1, Pass/Fail, Year 2 L/G. Course Director: Alexander Quarshie, MBChB, M.S.

GEBS 517 Graduate Biochemistry (3 credit hour)

The overall goal of this course is to provide information in different formats that will aid in the student's understanding of biochemical principles and enhance problem-solving

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abilities. Students are expected to be competent, reliable, self-directed and to do extensive critical reading and analysis of some information available through internet resources and in original publications. Understanding biochemical principles, key concepts and current research is a necessity since biochemistry provides a foundation for many other components in the graduate curriculum. Prerequisite: Enrollment in an MSM degree or postbaccalaureate certificate program. Fall. Letter Grade. Course Director: Karen Russell Randall, PhD

GEBS 517L Graduate Biochemistry Laboratory (2 credit hour)

This is an integrated lecture and lab course covering basic theories and techniques used in the experimental life sciences. The students will have an opportunity to experience a broad range of biochemical and molecular techniques that are currently used in the fast-paced modern biomedical research. The goal of this course is to introduce students to basic research techniques through laboratory exercises designed to provide experiences with the equipment and techniques that are the foundations for modern biomedical research. Prerequisite: Enrollment in an MSM degree program. Fall. Letter Grade. Course Director: Karen Russell Randall, PhD

GEBS 518 Medical Histology I: Cells and Tissues (3 credit hour)

This course provides an overview of human cellular structure and function, levels of tissue organization, and early embryology. It is the prerequisite to Medical Histology II: Organs and Systems. The course integrates the examination of histological specimens through a virtual laboratory platform with didactic microanatomy and physiology presentations to further emphasize the principles of organization as they relate to major clinical and functional themes. Prerequisites: Enrollment in the M.S. in Medical Sciences Degree. Fall. Letter Grade. Course Director: Rita Finley, PhD

GEBS 519 Medical Histology II: Organs and Systems (3 credit hour)

This course provides an understanding of the morphology and function of human organs and organ systems. The course covers the histological and gross structure and function of the nervous system, as well as the histological structure and function of the cardiovascular, lymphatic, respiratory, integumentary, digestive, respiratory, renal, endocrine, and reproductive systems of the human body. The course integrates virtual laboratory exposure with didactic microanatomy and physiology presentations to further emphasize the principles of organization as related to major clinical and functional themes. Prerequisites: Enrollment in the M.S. in Medical Sciences Program and a passing grade in Medical Histology I: Cells and Tissues. Spring. Letter Grade. Course Director: Rita Finley, PhD

GEBS 520 Analysis of Frequency Data (3 credit hour)

This course is intended to provide a more detailed approach to the analysis of categorical data in clinical and translational research. Topics covered: Tests and measures of association for contingency table analysis; goodness of fit, and the odds ratio, Estimation and hypothesis testing within the context of the general linear model (the analysis of

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variance, multiple regression, logistic regression and survival analysis) are addressed. Prerequisites: GEBS 524 and enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Letter Grade. Course Director: Fengxia Yan, PhD

GEBS 521 Neuroscience Lab Rotation (4 credit hour)

This course is an eight week laboratory rotation for M.S. in Neuroscience students as a part of the B.S./M.S. in Neuroscience Program. The rotation will introduce the student to mentored research within the Neuroscience Institute. Students will select a mentor based on interest, availability of space, and approval of the course director. Prerequisite: Satisfactory completion of GEBS 515 Introduction to Neuroscience Laboratory Techniques. Spring. Pass/Fail. Course Director: Morris Benveniste, PhD

GEBS 522 Clinical Trials (2 credit hour)

Principles for the design and conduct of clinical trials are discussed. Emphasis will be given to protocol preparation, randomization, sample size, trial monitoring, ethical issues and data analysis. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Letter Grade. Course Director: Priscilla Pemu, MD, M.S.C.R.

GEBS 523 Scientific Writing and Communication (3 credit hour)

The objective(s) of this course are to develop: 1) the ability to evaluate a variety of funding sources, write concept papers and letters of intent in biomedical sciences, 2) an approach to writing a competitive research proposal, 3) an understanding of the NIH review process. The course provides an overview of these processes in a series of didactic discussions and take-home assignments. Students are required to design a study for specific disease and prepare a scientific protocol and a grant application using Public Health Service Form 398 including the development of a consent form and budget. Emphasis will be placed on grantsmanship and scientific writing, the Institutional Review Board and NIH review process. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Letter Grade. Course Director: Lilly Immergluck, PhD and Jacqueline Ali, M.S.

GEBS 524 Fundamentals of Biostatistics (3 credit hour)

This course introduces various statistical methods used in clinical and translational research and public health management. Students are trained in probability theory, data management and interpretation of results. The standard statistical package SPSS is used with hands-on demonstrations. Topics include: Probability distributions and conditional probability; descriptive statistics; estimation; hypothesis testing; statistical inference; parametric and non-parametric statistical methodology. Prerequisites: Enrollment in an MSM degree program or permission of the program administration. Fall and Spring. Letter Grade. Course Director: Fengxia Yan, PhD

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GEBS 525 Laboratory Rotation III (1 credit hour)

The objective of the core rotations (GEBS 513-514) is to help students make an informed choice with respect to their research focus their major research advisor. This 8-week elective rotation requires students to work in a laboratory other than that of the major advisor to develop additional skills and experience that may be helpful in their thesis or dissertation project.

Prerequisites: Completion of GEBS 513 and GEBS 514, permission of the student's research advisor, permission of the supervisor of the laboratory in which the rotation is to be carried out, enrollment in the MSM PhD in Biomedical Sciences or MS in Biomedical research program. Fall and Spring. Pass/Fail. Course Director: Doug Paulsen, PhD

GEBS 528 Biomedical Genetics and Genomics (3 credit hour)

The purpose of this core course is to introduce students to human genetics, the role of genetics in human diseases, methods to detect disease susceptibility genes, the ethics of genetic testing and gene therapy for genetic diseases. Prerequisites: Grade of B or better in GEBS 517 and 517L or permission of course director. Enrollment in MSM degree program. Spring. Letter Grade. Course Director: Ericka Johnson, PhD.

GEBS 528L Biomedical Genetics Lab (2 credit hour)

The objective of these laboratory exercises is to provide a hands-on experience in the detection of mutations and disease genes. The goal of this course is to instruct you on when and where to use the appropriate techniques for detection of genetic mutations. Prerequisites: Grade of B or better in GEBS 517 and 517L or permission of course director. Enrollment in MSM degree program. Spring. Letter Grade. Course Director: Robert Meller, D. Phil.

GEBS 531 Clinical Core Laboratories (2 credit hour)

This course is designed to provide trainees with hands-on exposure to existing core units at the Clinical Research Center and how they support clinical and translational research. These cores are Noninvasive Cardiovascular and Hemodynamics, Analytical and Protein Profiling, Bionutrition, Nursing, Recruitment/Retention, Biostatistical and Data Management, Clinical Trials, Research Subject Advocate and Data Safety Monitoring Cores. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Pass/Fail. Course Director: Alexander Quarshie, MBChB, M.S.

GEBS 532 Community Engagement and Health Disparities in Clinical and Translational Research (2 credit hour)

This course introduces key issues in health disparities and community engaged research. Focus is on ways to assess and address health disparities, with an emphasis on inner-city and African American populations. Approaches to community engagement and community-centered research are addressed. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Spring. Pass/Fail. Course Director: Rakale Quarells, PhD

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GEBS 533 Critical Thinking and Scientific Communication I (2 credit hour)

The main objective of this course is to develop scientific writing and critical thinking skills necessary for scientific research. Students will learn skills to improve their ability to write clearly and logically and to critically analyze and communicate their opinions by both oral and written presentations. Students will be evaluated by a series of written exercises. A critical thinking pre- and post- test will be given to assess progress. Prerequisites: Enrollment in an MSM degree program or permission of the program administration. Fall. Pass/Fail. Course Director: Indrajit Chowdhury, PhD

GEBS 534 Scientific Integrity (2 credit hour)

This course is designed to cover contemporary ethical issues at the interface of science and ethics and the professional expectations of scientists in the responsible conduct of scientific research. Topics include Methods & Mandates, Scientific Records, Authorship and Peer Review, Intellectual Property, Conflicting Interests, Human and Animal Experimentation, and Genetic Technology. Didactic tasks involve student exercises, discussion leadership, analyses of cases, case presentation and report writing. Prerequisites: Enrollment in an MSM degree program or permission of the course director. Fall. Letter Grade. Course Director; Jonathan Stiles, PhD

GEBS 535 Human Biology (3 credit hour)

Human Biology is a team-taught course that provides a broad overview of major cellular components, basic tissue types, organs and organ systems. It is designed to introduce the student to the structural and functional integration of the major organ systems by working from the single cell level to the organ system level emphasizing the relationship of structure and function. Prerequisites: Enrollment in an MSM degree program or permission of the program administration. Spring. Letter Grade. Course Director: Rajagopala Sridaran, PhD

GEBS 535L Human Biology Laboratory (2 credit hour)

This course complements the content of the Human Biology lecture course by covering microscopic structure and approaches to studying the function of cells, tissues, organs and organ systems. It includes study of the relationship between structure and function of major cellular organelles, cells associated with the four basic tissue types, organs and organ systems through histological and microscopic methods as well as functional studies. Prerequisites: Enrollment in an MSM degree program or permission of the program administration. Fall/Spring. Letter Grade. Course Director: Brenda Klement, PhD

GEBS 537 Integrated Biomedical Science (4 credit hour)

This course is intended to provide students a strong understanding of the current and future research objectives in four fields of biomedical science. Each field, Cancer biology, HIV/AIDS and Infectious Disease, Neuroscience, and Cardiovascular Research will be taught in successive 4 ½-week modules by research faculty from those fields.

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Prerequisites: Grade of B or better in GEBS 517, 517L, 535, and 535L or permission of program administration. Course Coordinator: Doug Paulsen, PhD; Cancer Component Director: Veena Rao, PhD; Cardiovascular Component Director: Rakale Quarells, PhD, Neuroscience Component Director: Morris Benveniste, PhD; HIV/AIDS and Infectious Disease Component Director: Vincent Bond, PhD

GEBS 537-01 Integrated Biomedical Science: Cancer Component (1 credit hour)

This component of the Integrative Biomedical Sciences Course will provide students with a critical look at specific areas of cancer biology, providing an assessment of what constitutes the science of cancer and where the field may be going in the future. The Cancer Biology component will consist of two class meetings per week. Each class will meet for two hours (an extra 20 minutes will be added when a quiz is scheduled). Prerequisites: Grade of B or better in GEBS 517, 517L, 535, and 535L or permission of course director and program administration. Spring. Letter Grade. Course Director: Veena Rao, PhD

GEBS 537-02 Integrated Biomedical Science: Neuroscience Component (1 credit hour)

This component of the Integrative Biomedical Sciences Course will provide students with critical concepts in the field of Neuroscience. Lectures will include discussion of seminal experiments leading to the key discoveries that serve as part of the foundation of the field. Prerequisites: Grade of B or better in GEBS 517, 517L, 535, and 535L or permission of course director and program administration. Spring. Letter Grade. Course Director: Morris Benveniste, PhD

GEBS 537-03 Integrated Biomedical Science: Cardiovascular Component (1 credit hour)

The cardiovascular component of the Integrative Biomedical Sciences course will provide graduate students with a fundamental knowledgebase in the principles of cardiovascular biology at the molecular, cellular, and tissue levels. In addition to providing introductory didactic instruction in the field of cardiovascular biology, this component will also integrate leading-edge of vascular biology lectures with new developments that emerge at the interface with other inter-disciplinary fields (e.g. stem cell biology, epigenetics, systems biology, and genomic science). Prerequisites: Grade of B or better in GEBS 517, 517L, 535, and 535L or permission of course director and program administration. Spring. Letter Grade. Course Director: Rakale Quarells, PhD

GEBS 537-04 Integrated Biomedical Science: HIV/AIDS and Infectious Disease Component (1 credit hour)

This component of the Integrative Biomedical Sciences Course will provide students with critical concepts in HIV/AIDS, Malaria, and Multidrug Resistant Bacteria. Lectures will

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include discussion of seminal experiments leading to the key discoveries that serve as part of the foundation of the field. Prerequisites: Grade of B or better in GEBS 517, 517L, 535, and 535L or permission of course director and program administration. Spring. Letter Grade. Course Director: Vincent Bond, PhD

GEBS 539 Introduction to Health Professions (2 credit hour)

In this seminar and clinical experience course, students will develop an understanding from practitioners of various medical specialties and other health professions, the academics and personal responsibilities required to become a well-functioning health professional. Professions explored will include, but are not limited to, medicine, public health, clinical translational research, community-based participatory research and other related areas. Students will also participate in a variety of diverse clinical experiences. Personal statements, interviewing strategies, and similar topics will be addressed in workshops and skills sessions. Prerequisites: Enrollment in the MS in Medical Sciences Program or permission of course director and program administration. Spring. Letter Grade. Course Director: Rita Finley, PhD

GEBS 540 Critical Thinking and Scientific Communication in Neuroscience (2 credit hour)

This course is required for M.S. in Neuroscience students as a part of the B.S./M.S. in Neuroscience Program and is offered as an elective for other graduate students. It exposes students to the vast literature of Neuroscience, including a focus on experimental design and critical analysis. The course takes place in a discussion format. Grading will be based on students' preparation for each discussion as well as on submitted critiques of journal articles. Prerequisite: GEBS 533 Critical Thinking and Scientific Communication I. Spring. Pass/Fail. Course Director: Morris Benveniste, PhD

GEBS 541 Critical Thinking and Problem Solving I (3 credit hour)

Explores critical thinking through the critical analysis of literary works. Students will be given writing assignments to further the expression of their analysis of the chosen readings. Areas of study will also include the introduction and development of critical thinking skills with a specific focus on strengthening reading comprehension skills useful in the preparation for the MCAT's Critical Analysis and Reasoning Skills (CARS) section as a part of the course objectives. A review of behavioral science (psychology and sociology) will assist with preparation for the Psychological, Social and Biological Foundations of Behavior (PSBFB) section of the exam. Prerequisite: Enrollment in the M.S. in Medical Sciences Degree. Fall. Letter Grade. Course Director: Jamillah McDaniel, PhD, MPH

GEBS 542 Critical Thinking and Problem Solving II (4 credit hour)

Focuses on the review of the basic concepts of general biology, introductory biochemistry, general chemistry, organic chemistry, physics, introductory psychology, introductory sociology, and concepts in critical thinking and reasoning in preparation for the Medical

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College Admissions Test (MCAT). Class sessions are organized to strengthen foundational material by combining the use of in-class lectures, online video instruction, and group problem-solving sessions. In addition, students enrolled in the course will be instructed on test-taking strategies and MCAT examination format. Group problem-solving sessions address passage-based as well as discrete questions while also addressing the improvement of completion time for each section of the examination. Diagnostic MCAT examinations will be administered in order to monitor the students' progression throughout the semester. Prerequisite: Enrollment in the M.S. in Medical Sciences Degree. Spring. Letter Grade. Course Directors: Jamillah McDaniel, PhD, MPH and Kennie Shepherd, PhD

GEBS 544 Survey of Medical Terminology (2 credit hour)

Medical Terminology is offered to introduce aspiring healthcare professionals to the new language of medicine—a language that they will use throughout their careers. The course is offered in an online, self-directed format to allow students to cover required material efficiently, while also completing other required courses in the program. Students will be introduced to vocabulary for human body structures, functions, and diseases. The online course is divided into sections that emphasize etymology, definition, pronunciation and correct utilization of medical terms.

GEBS 545 Introduction to Public Health (3 credit hour)

Fundamentals of Public Health, an interdisciplinary foundation course for first year MSMS students, is designed to improve their analytical and practical skills in the essential principles (values, ethics and attitudes) and core competencies in public health. Students will explore successful examples in public health, including how scientific discoveries and regulatory policies have both contributed to mitigate risk factors and improve health outcomes. The course familiarizes students with key concepts such as equity, human rights, social justice, gender, development, underdevelopment, globalization and structural adjustment policies and their impact on domestic and global health issues. Prerequisites: Enrollment in the MSMS program or permission of the course director. Fall. Letter grade. Course Director: Mary Langley, PhD, MSMS, RN, ICPS.

GEBS 546 Critical Thinking and Scientific Communication II (2 credit hour)

This is a continuation of GEBS 533. The main objective of this course is to develop scientific writing and critical thinking skills necessary for scientific research. Students will learn to critically analyze and communicate their opinions by both oral and written presentations. In addition, students will receive training and produce oral and written reports to enhance their scientific communication skills. Prerequisites: Enrollment in an MSM degree program or permission of the program administration. Spring. Pass/Fail. Course Director: Gianluca Tosini, PhD

GEBS 547 Research Data Analysis (3 credit hour)

This course guides graduate students through the application of statistical and graphical methods for biomedical data analysis and presentation based on their projected needs for graduate research. Readily available statistical and graphical software (GraphPad

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Prism and Microsoft Excel) will be used for data analysis. The course involves a blend of didactic lectures and practical application sessions to apply appropriate techniques to research data from student projects. Fall. Letter Grade. Course Directors: Ward Kirlin, PhD

GEBS 548 Community Assessment and Health Promotion (3 credit hour)

This course is designed to provide students with the knowledge and skills required to assess and organize communities for health promotion interventions. Further, this course will provide integrated material in three areas of program development - planning, implementing and evaluating. Students will work as teams in selected communities and engage in fact-finding activities that lead to a presentation of recommendation for improved community health to community stakeholders and policymakers. Prerequisites: GEBS 545. Enrollment in an MSM degree program or permission of the course director and program administration. Spring. Letter Grade. Course Director: Mary Langley, PhD

GEBS 550 Practical Skills Workshop Series (1 credit hour)

This series is designed to help trainees to begin work on their mentored projects. Topics covered include, Introduction to Clinical research, Obtaining research support and grant funding mechanisms, Proposal development, Study designs, Analysis of secondary data, Cultural competency, Career development, Human subject advocacy and Introduction to medical informatics. New topics on Introduction to Translational research and Health disparities, and Research and grants administration will be introduced. Prerequisites: Enrollment in an MSM degree program or permission of the MSCR program administration. Fall. Pass/Fail. Course Director: Alexander Quarshie, MBChB, M.S.

GEBS 551 Introduction to Medical Pharmacology (3 credit hour)

This course is intended to orient graduate students and those who are interested in improving their credentials to compete for admission to a medical school within the general scope of pharmacologic science. The course is designed to introduce students to concepts of the interactions of chemical agents with living tissues. It will also provide an overall perspective of pharmacology, emphasizing basic principles and mechanisms involved in drug interactions. Specific categories of drugs will be presented and discussed based on the basic mechanism of action of the drug group. Specific drug classes to be discussed include those with an action on the autonomic and central nervous systems, and the cardiovascular system. Prerequisites: Enrollment in the M.S. in Medical Sciences Program or permission of course director and program administration. Spring. Letter Grade. Course Director: Karen Randall, PhD

GEBS 552 Introduction to Neurobiology (3 credit hour)

This lecture course is designed to be an introduction to neuroanatomy and neurophysiology. It provides a survey of the basic functional organization and anatomy of the central nervous system (CNS). The topics include the external and internal morphology of the cerebral cortex, diencephalon, brain stem, and spinal cord. The blood

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supply to the major components of the CNS will be presented. The student will also be introduced to the connectivity within the CNS and the corresponding functional significance in the study of the following: ascending sensory system, descending motor systems, spinal reflexes, auditory and vestibular systems, and visual system. The higher integrative function of the CNS will be presented in the study of the hypothalamus, limbic system, and the cerebral cortex. Prerequisites: Enrollment in the M.S. in Medical Sciences Program or permission of course director and program administration. Fall. Letter Grade. Course Director: John Patrickson, PhD

GEBS 552L Introduction to Neurobiology Lab (2 credit hour)

The laboratory section is designed to re-enforce the information presented in the Neurobiology lecture course. Students will have hands-on collaborative laboratory exercises utilizing brain specimens, models, and histological slides of the CNS in conjunction with the laboratory manual. Prerequisites: Enrollment in the M.S. in Medical Sciences Program or permission of course director and program administration. Fall. Letter Grade. Course Director: John Patrickson, PhD

GEBS 553 Basic Medical Microbiology (3 credit hour)

Upon completion of this course, the student will have a basic understanding of the various microorganisms that can cause disease, their structure, nomenclature, and scientific names. The student will be introduced to the principles of the standard methods for detection and identification of infectious agents. Further, the student will become familiar with standard methods of disinfection and sterilization and the mechanism of action common antimicrobial drugs used in the treatment of infectious diseases. At the end of the section the student will be introduced to the basic functions of the immune system as it relates to infectious diseases. Prerequisites: Enrollment in the M.S. in Medical Sciences Program or permission of course director and program administration. Spring. Letter Grade. Course Director: Michael Powell, PhD

GEBS 554 Basic Biochemistry (3 credit hour)

This core course for the MS in Medical Sciences program is designed to provide a foundation in biochemistry that will enable the student to succeed in medical curricula. The broad areas to be covered include structural biochemistry, energy generation, basic intermediary metabolism, molecular biology, and gene expression. Prerequisites: Enrollment in the MSMS program or permission of the course director and program administration. Fall. Letter Grade. Course Director: William Roth, PhD

GEBS 555 Introduction to Data Science (2 credit hour)

The goal of this course is to give students a basic introduction in the approach of data analytical approaches for biomedical data. P/F. Course Director(s): Robert Meller, D.Phil and Peter Baltrus, PhD

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GEBS 556 Introduction to Human Gross Anatomy (4 credit hour)

This course is designed to develop an understanding of normal clinical anatomy through an integrated anatomical approach to the study of human body structure. Lab sessions will be complemented with lectures covering the systematic and developmental anatomy of the human body with faculty utilizing medical case studies to teach anatomy within a clinical context. Summer. Letter Grade. Course Director: Amy Mork, PhD

GEBS 561L Methods in Neuroscience (2 credit hour)

The course is a semester-long laboratory course for students in the Master of Science in Neuroscience two-year degree program. It is designed to expose students to a variety of laboratory techniques commonly used in today's biological The course is a semester-long laboratory course for students in the Master of Science in Neuroscience two-year degree program. It is designed to expose students to a variety of laboratory techniques commonly used in today's biological gels, western blotting and immunohistochemistry, tissue culture, calculations for making solutions, and microscopy. In addition, students will be exposed to techniques specific to neurobiology such as electrophysiological recording, simulations of electrical signaling, and pharmacologic effects of agonists and antagonists, and practical exposure to human brain anatomy. Course content is similar to GEBS 515, a 2-week intensive course for students in the BS/MS program in Neuroscience. Prerequisite: Enrollment in BS/MS in Neuroscience or MSNS program, concurrent enrollment or passing grade in GEBS 703. Fall, Letter Grade. Course Directors: Shobu Namura, MD, PhD and Morris Benveniste, PhD

GEBS 600E – 601E Self-Directed Research Internship I & II (7 credit hour total)

This course is a required component of the Online MS in Biomedical Technology degree program. Each student will participate in an industry/agency-connected research internship or internship program that meets the learning objectives of this course. Each student will be required to complete a minimum of 150 hours working on-site, towards specified project objectives developed by the student, the on-site internship supervisor and the Morehouse School of Medicine, MS in Biomedical Technology Program. It is ultimately the student's responsibility to establish the final arrangements for the position, including the specific work schedule, confirmation of the student's role(s) on the project, and approval of the project by the on-site internship supervisor. The intern is responsible for communicating necessary contact information, i.e. phone, FAX and email information, so that the course instructor and on-site supervisor can communicate effectively regarding the student's progress. Letter Grade. Course Director: James Lillard, PhD

GEBS 601 The Biology of Health and Disease (3 credit hour).

This course will introduce M.S. in Medical Sciences students to key clinically relevant topics in Cardiovascular Disease, Cancer, and Infectious Diseases while providing an opportunity for the students to engage in critical thinking and active learning. Prerequisites: Enrollment in the M.S.M.S. Program and satisfactory completion of GEBS 518 and GEBS 519 Principles of Anatomy & Physiology I & II or permission of the course director. Fall. Letter Grade. Course Director: Rigobert Lapu Bula, MD, PhD

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GEBS 607E Project Management (2 credit hour)

This online course will provide a detailed overview of Project Management techniques and methods applied to the commercial sector using the accepted principles of the Project Management Institute (PMI). General knowledge from the field of Project Management will be conveyed from the perspective of engineering or science personnel in the industrial field. Letter Grade. Course Director: Joshua Simon, PhD

GEBS 608E Introduction to Bio-Medical Data Science (3 credit hour)

This online course provides a comprehensive overview of the key concepts in biomedical data science and the application of common data science techniques used in biotechnology, bioinformatics and health informatics. Students will gain a broad background in data science. Letter Grade. Course Director: Rebecca McPherson, PhD

GEBS 610 Preparing a Research Proposal (2 credit hour)

The objective of the course is to guide PhD students through grant proposal development and assist them in preparing a pre-doctoral fellowship proposal which will serve as their dissertation proposal in the MSM PhD in Biomedical Sciences program. A further objective of this course is for students to work with their research advisors to submit their proposal when complete to the NIH for consideration for NRSA pre-doctoral fellowship funding. Prerequisites: Enrollment in the MSM PhD in Biomedical Sciences program or permission of the program administration. Spring. Pass/Fail. Course Director: Michael Powell, PhD

GEBS 625-630 Technical Apprenticeships I-VI (5 credit hour each)

This 8-week apprenticeship involves full-time work in service laboratories. MSBT students are required to complete GEBS 625 - 628. Three of these internships must be in MSM core research service laboratories. The fourth, or even a fifth (GEBS 629) or sixth (GEBS 530) may be offsite at another institution or company. Each apprenticeship must culminate in a written summary including detailed experimental protocols for the work performed. Prerequisites: Completion of the MSBT Core curriculum including lab rotations, approval of the student's Technical Advisor, the host laboratory supervisor, and course director. Fall and Spring. Pass/Fail. Course Director: Michael Powell, PhD

GEBS 650 Culminating Project I (3 credit hour)

The purpose of the culminating project for the Master of Science in Medical Sciences Degree is to allow the student to apply knowledge and skills learned in the basic science and public health curriculum and conduct an independent research-oriented project related to a specific health issue using national data sets. The first semester course focuses on developing the skills needed to manage and analyze data in SPSS as well as develop a testable research hypothesis. Products for the semester will include a research question, research proposal, and analysis plan in order to complete the analysis and final paper in Culminating Experience II in the spring semester. Prerequisites: Enrollment in the MSMS program and/or permission of the course director and program director, GEBS 500, GEBS 524. Fall. Letter Grade. Course Director: Peter Baltrus. PhD

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GEBS 652 Culminating Project II (3 credit hour)

The purpose of the culminating project for the Master of Science in Medical Sciences Degree is to allow the student to apply knowledge and skills learned in the basic science and public health curriculum and conduct an independent research-oriented project related to a specific health issue using national data sets. The second semester course focuses on guided independent study to complete the student's research proposal. Students will attend weekly classes in order to learn skills in presentation and writing up research findings. Products for the semester will include a poster to be presented in a school-wide forum and a research paper modeled on a peer-reviewed journal article. Prerequisites: Enrollment in the MSMS program and/or permission of the course director and program director, GEBS 500, GEBS 524, GEBS 650. Fall, Letter Grade. Course Director: Peter Baltrus, PhD

GEBS 675 Thesis Research (up to 11 credit hour/semester)

MSBR students must accumulate a minimum of 12 credit hours of Thesis Research in order to graduate. This course allows students to receive course credit as they collect data for their thesis project as well as while writing their thesis. Thesis research hours reflect the number of hours remaining after any other course credits for that semester are subtracted. To receive credit for Thesis Research, students must submit forms signed by their thesis committee indicating that they have made adequate progress on their thesis research. Prerequisite: Completion of required lab rotations and selection of advisor. Fall and Spring. Pass/Fail. Course Directors: Karen Randall, PhD and Morris Benveniste, PhD

GEBS 700 Cell and Developmental Biology (3 credit hour)

This course will introduce students to the dynamics of differentiation and embryonic development. Lectures, student presentations, and discussions will familiarize students with one of the most incredible processes in the living world: embryonic development. Prerequisites: Completion of GEBS 517 and 535, and enrollment in an MSM degree program or permission of the course director. Fall. Letter Grade. Course Director: TBD

GEBS 702 Advances in Reproductive Biology (3 credit hour)

Selected current areas of reproductive biology of interest to the students and faculty will be reviewed by the Faculty and relevant research papers will be assigned for student presentation and class discussion. Prerequisites: Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Kelwyn Thomas, PhD

GEBS 703 Essential Neuroscience I: Neurophysiology & Neuropharmacology (4 credit hour)

The course consists of two concurrent blocks of coordinated lectures (Neurophysiology and Neuropharmacology) for graduate students in the second year of study. This elective course is strongly suggested for students focusing on Neuroscience Research and may be required by your research advisor. The goal of this course is to impart to the student a basic, but in-depth, understanding of the major concepts of signal transduction within the

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the nervous system. Coverage will include how ionotropic and metabotropic mechanisms mediate changes in the potential of excitable membranes. Subjects will be taught with a didactic emphasis on experimental design to test hypotheses of critical concepts in the field of Neuroscience. Lectures will include discussion of seminal experiments leading to the key discoveries that serve as part of the foundation of the field. Prerequisites: GEBS 537 or 537-02, enrollment in an MSM degree program or permission of the course director and program administration. Fall. Letter Grade. Course Directors: Morris Benveniste, PhD

GEBS 704 Essential Neuroscience II: Systems Anatomy, Function and Neurodevelopment (3 credit hour)

The course consists of two concurrent blocks of lectures (Systems Structure and Function, and Anatomy and Neurodevelopment) for graduate students in the second year of study. This elective course is strongly suggested for students focusing on Neuroscience Research and may be required by your research advisor. This course will impart to the student a basic, but in-depth, understanding of the anatomical and functional connections in several parts of the nervous system with a focus on input, modulation and output of local circuits. Subjects will be taught with didactic emphasis on experimental design to test hypotheses of critical concepts in the field of Neuroscience. Lectures will include discussion of seminal experiments leading to the key discoveries that serve as part of the foundation for the field. Prerequisites: GEBS 537 or 537-02, GEBS 703, enrollment in an MSM degree program or permission of the course director and program administration. Spring. Letter Grade, Course Director: Morris Benveniste, PhD

GEBS 705 Essential Neuroscience III: Neurobiology of Disease (2 credit hour)

The course covers neurological diseases and the mechanisms by which they are manifested. There will be a focus on how experiments have elucidated pathologic mechanisms and/or the pharmacology of disease reversal or symptom reduction. This course is for M.S., PhD, and B.S./M.S. students in the second year of study and while listed as an elective, is strongly advised as a part of a 3-course sequence for Neuroscience Research students. The emphasis is on experimental design to test hypotheses of critical concepts. Lectures will include discussion of seminal experiments leading to foundational discoveries of neuroscience. Prerequisites: GEBS 703, GEBS 704 or permission of the course director and program administration. Fall. Letter Grade, Course Director: An Zhou, PhD

GEBS 706 Molecular Mechanisms in Cardiovascular Science (3 credit hour)

The course will provide students with an understanding of the cellular, molecular, and biochemical mechanisms involved in the field of cardiovascular science. Special emphasis will be placed on reading and interpreting the original literature, integrating information to develop new approaches, and organizing research literature to develop an understanding of the complex issues in cardiovascular science. Prerequisites: Enrollment in an MSM degree program or permission of the course director and program administration. Spring. Letter Grade. Course Director: Dong Liu, PhD

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GEBS 708 Cancer Biology (3 credit hour)

This course is designed to provide the background for understanding a number of genetic, cellular, molecular, and biochemical mechanisms involved in different aspects of cancer biochemistry. This course will also emphasize reading and interpreting the primary literature, integrating information to develop new approaches, and organizing research literature to develop an understanding of a complex field. Prerequisites: Enrollment in an MSM degree program or permission of the course director and program administration. Spring. Letter Grade. Course Director: Shailesh Singh, PhD

GEBS 710 Essentials in Bioinformatics (3 credit hour)

This course will introduce the basic concepts of bioinformatics. The goal of this course is to help the students to better 1) understand the basic concepts of bioinformatics, 2) access bioinformatics data, 3) communicate with bioinformaticians and computer programmers, and 4) apply bioinformatics in their research. Fall. Letter Grade. Course Director: Robert Meller, D.Phil.

GEBS 749 Supervised Research (up to 9 credit hour per semester)

This course allows PhD students who have not yet achieved candidacy to receive course credit as they learn methods and collect preliminary data for their dissertation project, as well as while writing their dissertation proposal. PhD students in their second year of study and beyond register for 9 credit hours total per semester. Supervised research hours reflect the number of hours remaining after any other course credits for that semester are subtracted. Prerequisite: Completion of laboratory rotations and selection of an advisor. Fall and Spring. Pass/Fail. Course Director: Doug Paulsen, PhD

GEBS 753-01 Special Topics in Cardiovascular Research: Population/Evolutionary Genetics (2 credit hour)

This course is intended to be a narrow survey of genetic aspects of evolution including traditional empirical and theoretical population genetics, medical genetics, ecological genetics and the relationship between microenvironment and macroenvironment. The goal of this course is to help students understand the current state, course of development and likely future directions of population, medical, ecological/evolutionary genetics. Prerequisites: Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Felix Aikhionbare, PhD

GEBS 753-02 Special Topics in Cardiovascular Research: Bioinformatics Analysis of Epigenetic-Mediated Cell-Specific Genes (2 credit hour)

Graduate students will be introduced to the major gene expression databases (such as, the NCBI's gene expression omnibus (GEO) database), along with epigenomic databases (such as the Epigenomic Atlas). This course will provide students with knowledge and experience in using these databases and tools to solve biomedical research problems and allow them to have practical tools for discovering novel genes specifically or preferentially expressed in their cells of interest. This could lead the students to carrying

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out follow-up studies as part of their research laboratory projects that may confirm the cell-specific expression of the novel gene(s) and define the gene's role or function in cells. Prerequisites: GEBS 528 and 528L. Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: TBD

GEBS 757 Special Topics in Immunology (2 credit hour)

This is an introductory course in immunology where the students will first learn about basic human host responses. The second half of the course focuses on inflammation, immune function, or dysfunction in the areas of interest to the students, such as infectious and cardiovascular disease, neurobiology and cancer. Prerequisites: Enrollment in an MSM degree program or permission of the course director and program administration. Spring or Fall. Letter Grade. Course Director: TBD

GEBS 758 Special Topics in Microbiology: Bacterial Pathogenesis (2 credit hour)

The course will provide students with a current vision of the strategies bacterial pathogens exploit to a) gain entrance to the human body, b) adhere and colonize specific anatomical sites, c) spread within the body, d) evade innate and adaptive defense mechanisms, and e) become resistant to antibiotics.

The course will focus on themes of bacterial pathogenesis at the molecular level and the use of animal models in infectious disease research. The course format includes weekly lectures followed by discussions of research articles illustrating translation of basic research to diagnosis, treatment and prevention. Fall or Spring. Letter Grade. Course Director: TBD

GEBS 759-01 Special Topics in Neurobiology: Neuronal Electrophysiology (2 credit hour)

This is an upper level course dealing with electrical signaling within the nervous system. It will discuss the role of ion channels in generating the intrinsic signals found in excitable tissue and will explore the mechanisms by which neurons communicate with other neurons or target cells. The course will highlight the role of specificity of connections in understanding how information is encoded and processed within the nervous system. Reading of the original literature will be emphasized. Prerequisites: GEBS 535 and 537 or 537-02. Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Peter MacLeish, PhD

GEBS 759-02 Special Topics in Neurobiology: Cell Communication in Neurodegenerative Disorders (2 credit hour)

The overall goal of this course is to improve the student's understanding of cellular communication within the nervous system and its involvement in neuroprotection and

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neurodegenerative disorders. The objectives include an understanding of the following: (a) Neurotrophic and growth factor signaling; (b) Mechanisms of apoptosis; (c) Neuroprotection; (d) Neurodegenerative disorders. Special emphasis of the course will be on reading and interpreting the original literature. Active participation and targeted follow up projects to topics covered in the reading will be emphasized. In the end, students should have an improved understanding of the field and improved confidence to analyze and critique the conceptual framework and experimental approaches on a number of neuroscience topics. Prerequisites: GEBS 535, 535L and 537 or 537-02. Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: TBA

GEBS 762-01 Special Topics in Physiology: Biophotonics. (2 credit hour)

Biophotonics is the science of generating and harnessing light (photons) to image, detect and manipulate biological materials. In modern biomedical sciences, Molecular imaging offers the basis for the extraordinary, non-invasive and quantitative analytical tools useful in the laboratory environment to interrogate biological pathways relevant to systems biology as well as in the diagnosis and treatment of diseases in the clinics. Imaging specific molecules and their interactions in space and time is essential to understand how genomes create cells, how cells constitute organisms and how errant cells cause disease. The excitement and challenge for next generation of biomedical research is to be able to employ biophotonic strategies to solve complex biomedical problems. This elective course will facilitate the thesis research program development. Prerequisites: GEBS 535 and 535L. Enrollment in an MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Xuebiao Yao, PhD

GEBS 764-01 Special Topics in Science Education: Biomedical Genetics Laboratory (2 credit hour)

This special topic course allows students to earn credit functioning as laboratory teaching assistants (TA's) where they will be involved in assisting students enrolled in the Biomedical Genetics Laboratory Course. Student laboratory TA's will enhance their understanding of the use of genetic technologies by having the responsibility of instructing and assisting graduate students with laboratory exercises that include DNA isolation, detection of single nucleotide polymorphisms, insertion deletions and gene expression. Prerequisites: Prerequisites: Grade of B or better in GEBS 528 and 528L and overall B average in MSM degree program or permission of the course director and program administration. Spring. Letter Grade. Course Director: Robert Meller, D.Phil.

GEBS 764-02 Special Topics in Science Education: Human Biology Laboratory (2 credit hour)

This special topic course allows students to earn credit functioning as laboratory teaching assistants (TA's) where they will be involved in assisting students enrolled in the Human Biology Laboratory Course. Student laboratory TA's will enhance their understanding of the structure and function of human cells tissues and organs by having the responsibility of instructing and assisting graduate students with laboratory exercises designed to provide experiences with microscopy, physiology, and educational technology.

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Prerequisites: Grade of B or better in GEBS 535 and 535L and overall B average in MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Brenda Klement, PhD

GEBS 764-03 Special Topics in Science Education: Biochemistry Laboratory (2 credit hour)

This special topic course allows students to earn credit functioning as laboratory teaching assistants (TA's) where they will be involved in assisting students enrolled in the Graduate Biochemistry Laboratory Course. Student laboratory TA's will enhance their understanding of the basic theories and techniques of a broad range of biochemical and molecular techniques that are currently used in the fast-paced modern biomedical research by having the responsibility of instructing and assisting graduate students with laboratory exercises designed to provide experiences with the equipment and techniques that are the foundations for modern biomedical research. The TA's will have an opportunity to gain practical teaching and tutoring experiences. Additionally, TA's will gain experience in organizing and prepping for laboratory exercises and assessing protocols prior to the actual student lab. Prerequisites: Grade of B or better in GEBS 517 and 517L and overall B average in MSM degree program or permission of the course director and program administration. Fall or Spring. Letter Grade. Course Director: Karen Russell Randall, PhD

GEBS 766-01 Special Topics in Pharmacology: Essential Pharmacology for Biomedical Research (2 credit hour)

This course aims to provide students with the basic concepts of pharmacological activity, how drugs work and how genes modify their actions, and to illustrate the importance of pharmacology and drug action in all areas of biomedical science. This course will provide an in-depth understanding of fundamental principles of rational drug therapy and the role of pharmacology in the treatment of common diseases. Prerequisites: Completion of GEBS 517 and enrollment in an MSM degree or permission of the course director and program administration. Fall, Letter Grade. Course Director: Karen Russell Randall, PhD

GEBS 800 Dissertation Research (up to 9 credit hour/semester)

PhD students must accumulate a minimum of 25 credit hours of Dissertation Research in order to graduate. This course allows students to receive course credit as they collect data for their dissertation project as well as while writing their dissertation. PhD candidates in the dissertation phase of their studies register for 9 credit hours total per semester. Dissertation research hours reflect the number of hours remaining after any other course credits for that semester are subtracted. To receive credit for Dissertation Research, students must submit forms signed by their dissertation committee indicating that they have made adequate progress on their dissertation research. Prerequisite: PhD Candidacy. Fall and Spring. Pass/Fail. Course Director: Ward Kirlin, PhD

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GRADUATE FACULTY AND THEIR RESEARCH

Felix Aikhionbare, Assistant Professor, PhD, University of Nebraska. Differences between human ovarian and colorectal cancer in normal and cancerous tissue.

Leonard M. Anderson, Assistant Professor, PhD, Northwestern University. Cardiovascular genomics; vascular smooth-muscle-cell fate determination from stem cells.

Kenkichi Baba, Assistant Professor, PhD Hokkaido University Graduate School of Medicine. Circadian biology

Kameswara Badri, Assistant Professor, PhD, MB(ASCP)CM, Sri Venkateswara University, Tirupati, India.

Mohamed A. Bayorh, Professor, PhD, Howard University. Cardiovascular: neurochemical, and signaling pathways in actions of polyunsaturated fatty acids, vasoactive substances, and drugs of abuse.

Morris Benveniste, Professor, PhD, Weizmann Institute of Science (Israel). NMDA channels in synaptic integration; scorpion toxin action on sodium channels.

Vincent C. Bond, Professor, Chair of Microbiology, Biochemistry, and Immunology, PhD, Penn State University. HIV/AIDS pathogenesis, DNA virology; mammalian cell biology.

Lee Caplan, Professor, Assistant Director of Research, MPH, Harvard University, MD, Albert Einstein College of Medicine, PhD, Johns Hopkins University. Epidemiology.

Indrajit Chowdhury, Instructor, PhD, Banaras Hindu University (India). Hormone signaling and action in the hypothalamic-pituitary-ovarian axis.

Carmen Copeland-Dickinson, Instructor, PhD, Morehouse School of Medicine.

Alec Davidson, Associate Professor, PhD, Florida State University. Integrative analysis of circadian systems in mammals.

Jason DeBruyne, Associate Professor, PhD University of Houston. Cellular and genetic mechanisms underlying circadian timekeeping.

Hao Duong, Assistant Professor, PhD, University of California, Los Angeles, California. **The roles of the circadian clock in spatiotemporal integration of biological functions.**

Danita Eatman-Daniels, PhD, Associate Professor, Wright State University. Hormonal regulation of hypertension.

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Francis Eko, Associate Professor, PhD, University of Vienna (Austria). Immunity and pathogenesis of *Chlamydia*, HSV-2, *Vibrio cholerae*, and related pathogens.

Martha Elks, Professor; Senior Associate Dean Educational Affairs; MD, PhD, University of North Carolina, Chapel Hill. Educational issues, teaching and assessing professionalism, educational methodology.

Rita Finley, Associate Professor; Assistant Dean, Educational Outreach and Health Careers, Director of M.S. in Medical Sciences Program, M.S., Tennessee State University, PhD, Atlanta University. Biomedical education.

Sharon Francis, Assistant Professor, PhD, University of Alabama at Birmingham. Molecular physiology and vascular biology of hypertension and obesity-related vascular diseases.

Ruben Gonzalez-Perez, Professor, PhD, University of Toulouse (France) University of Havana (Cuba). Leptin signaling in cancer.

Sandra A. Harris-Hooker, Vice President and Executive Vice Dean, Research and Academic Administration, PhD, Atlanta University. Endothelial cells and smooth muscle in atherosclerosis; in vitro blood vessel modeling.

Jacqueline Hibbert, Associate Professor, PhD, University of the West Indies. Metabolic response to disease; effects on protein and energy nutritional requirements.

Ericka Johnson, Associate Professor, PhD, Morehouse School of Medicine.

Ward Kirlin, Professor, PhD, Emory University. Chemical carcinogenesis and toxicology; induction pathways in carcinogen activation and detoxification.

Brenda J. Klement, Associate Professor, PhD, Kansas State. Endochondral bone formation and skeletal tissue changes in microgravity.

Rigobert Lapu-Bula, Associate Professor, MD, University of Kinshasa (Congo), Echocardiography, health disparities.

James Lillard, Professor; Associate Dean, Research Affairs; PhD, University of Kentucky College of Medicine, MBA, Emory University. Role of chemokines in modulating mucosal immunity, inflammation, and cancer cell metastasis.

Dong Liu, Associate Professor, MD, PhD, Zhejiang University, Therapeutic angiogenesis with stem cells.

Woo-Kuen Lo, Professor, PhD, Wayne State University. Eye ultrastructure and cell biology; intercellular junctions; cell membrane and cytoskeleton of the lens.

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Peter MacLeish, Professor; Chair, Neurobiology; Director, Neuroscience Institute. PhD, Harvard. Functional organization of the vertebrate retina; axonal regeneration; Purkinje cell viability.

Robert M. Mayberry, Professor; Director of the Biostatistics, Study Design, and Data Management Core, Research Center for Clinical and Translational Sciences (R-CENTER); Associate Director, Clinical Research Center. MS, MPH, PhD, University of California, Biostatistics.

Jamillah McDaniel, Assistant Professor, PhD, MPH. Mercer University, Tift College of Education.

Robert Meller, Associate Professor, D.Phil., University of Oxford (England). Rapid ischemic tolerance, Rapid events mediating neuroprotection.

Shobu Namura, Professor, MD, PhD, Kyoto University (Japan). Cerebrovascular functions and their sequelae after stroke.

Elizabeth Ofili, Professor, Senior Associate Dean for Clinical Research, MD, MPH, Ahmadu Bello University (Nigeria). Preventive cardiology- early detection and treatment of heart disease.

Yusuf Omosun, Assistant Professor, PhD, University of Ibadan.

John W. Patrickson, Professor, PhD, Howard University. Chronobiology; neural mechanisms in the generation of circadian rhythms.

Douglas F. Paulsen, Professor; Associate Dean for Graduate Studies; PhD, Wake Forest University School of Medicine. Skeletal patterning during embryogenesis; microgravity effects on the musculoskeletal system.

Priscilla Pemu, Professor, MD, University of Benin, College of Medicine (Nigeria). Obesity and its relationship to cardiometabolic risk.

Michael D. Powell, Associate Professor, PhD, University of Texas at Dallas. Role of cellular factors in the regulation of HIV-1 reverse transcription.

Alexander Quarshie, Associate Professor; Director, Biomedical Informatics Program; Co-Director M.S. in Clinical Research program. MBChB University of Ghana, MSc, University of London. Statistical and clinical training, clinical and translational research, biostatistics.

Karen Randall, Associate Professor, PhD, University of the West Indies (Jamaica). Relationship of opioid receptors and cell signaling in the eye to identify drug targets in the design of novel drugs for the management of glaucoma.

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Veena N. Rao, Professor; Co-Director, Cancer Biology Program, M.S., PhD, Osmania University (India). Molecular and functional dissection of ELK-1 and BRCA-1 tumor suppressor genes in cancers.

E. Shyam P. Reddy, Professor; Co-Director, Cancer Biology Program, M.S., PhD, Andhra University (India). Functional role of ets, fusion oncoproteins, and tumor suppressors in cancer.

William Roth, Assistant Professor, M.S., Louisiana State University, PhD University of Mississippi. DNA sequencing.

David Satcher, Professor, Director, Satcher Leadership Institute; Director, Center of Excellence on Health Disparities, MD, PhD, Case Western Reserve University, health disparities, health policy.

Kennie Shepherd, Assistant Professor, PhD, Florida A&M University. Neurodegenerative disorders and neuroprotective therapies.

Roger Simon, Professor, MD, Cornell Medical College. Endogenous neuroprotective mechanisms in the brain.

Rajesh Singh, Instructor, PhD, Banaras Hindu University (India), Role of chemokines and their receptors in tumor progression and potential role of inflammation in tumor development and progression.

Shailesh Singh, Associate Professor, PhD, Banaras Hindu University (India). The role of chemokines in cancer metastasis.

Robert Sloviter, Professor, PhD, Pennsylvania State University. Structure, function, and malfunction of the hippocampus and temporal lobe in epilepsy.

Marjorie Smith, Professor, Pathology and Anatomy, MD, Howard University. Pathology education.

Qing Song, Assistant Professor, MD, Peking University; PhD, University of South Carolina. Molecular mechanisms of genetic susceptibility to cardiovascular disease, obesity, and diabetes.

Rajagopala Sridaran, Professor, PhD, University of Health Sciences (Chicago). Reproductive endocrinology; gravity during pregnancy; GnRH in fertility; corpus luteum demise and parturition.

Jonathan Stiles, Professor, PhD, University of Salford (England). Molecular and cell biology of *Trypanosoma*-, *Plasmodium*-, and *Trichomonas*-induced pathogenesis.

Graduate Education in Biomedical Sciences (GEBS)

Kelwyn H. Thomas, Associate Professor, PhD, University of California, San Diego. Gene regulation of cellular differentiation; germ-cell development in mouse testis.

Winston Thompson, Professor and Chair, Physiology, PhD, Rutgers. Cell and reproductive biology; molecular mechanisms of ovarian follicle development and cyst formation.

Gianluca Tosini, Professor; Chair, Pharmacology and Toxicology; Interim Chair, Physiology; Director, Circadian Rhythms and Sleep Disorders Program; PhD, University of Bristol (England). Interactions between retinal and hypothalamic circadian clocks.

Evan F. Williams, Associate Professor, PhD, Howard University. Role of nucleoside transporters in cardiovascular function; ocular purinergic systems.

Lawrence E. Wineski, Professor and Chair, Pathology and Anatomy, PhD, University of Illinois. Neural organization of craniofacial musculature; microgravity effects on the musculoskeletal system, anatomical sciences education.

Eleen Yancey, Associate Professor, PhD Behavior modification intervention for adult African-American men with a history of substance abuse and risky sexual behavior.

Xuebiao Yao, Professor, PhD, Berkeley. Mitotic chromosome segregation; establishment and maintenance of cell polarity; biophotonics.

Zhigang Xiong, Professor, MD, PhD, University of Ottawa, Ion channels and neurological disorders.

Fengxia Yan, Assistant Professor, MD, M.S., Qingdao University Medical College, M.S. Georgia State University. Biostatistics, Health Disparities.

Xueying Zhao, Assistant Professor, MD, M.S., PhD, Suzhou Medical College. Epoxygenase metabolites and endothelial function in cardiovascular and renal disease.

An Zhou, Associate Professor, PhD, Copenhagen University., Proteomics and protein effectors of neuronal disorders.

Morehouse School Of Medicine



MASTER OF PUBLIC HEALTH



Master of Public Health Program

MASTER OF PUBLIC HEALTH PROGRAM

<http://www.msm.edu/Education/MPH/index.php>

Assistant Dean for Graduate Education
in Public Health and Director,

Master of Public Health Program: Stephanie Miles-Richardson, DVM, PhD

Program Manager: Brenton Powers, MPH

History of the Program

The Master of Public Health (MPH) Program at MSM was established in 1995 to address the increasing shortage of underrepresented minorities in leadership positions in the field of public health. MSM trained public health professionals are prepared for a career that will engage them in addressing and protecting the health of people of color, minorities, and underserved communities that are disproportionately affected by preventable chronic conditions and illnesses. The MPH curriculum ensures that all MSM MPH degree recipients are proficient in the community focused work that undergirds the social mission of the institution while still meeting or exceeding the accreditation standards set forth by Council on Education for Public Health (CEPH). The curriculum offers the opportunity for students to customize their MPH degree through 14 credit hours of electives. Importantly, Applied Practice Experience, Public Health Leadership Seminars, Professional Development Workshops, and Integrative Learning Experience ensure that students have the practical, research, communication, and professional skills necessary to become leaders in the public health profession. The Program was accredited initially in 1999 by CEPH making it the first accredited MPH Program at a Historically Black College and University.

The MPH Program focuses on providing unique opportunities for students to become engaged in community-based participatory research, student-directed learning, problem solving, and the development of skills and competencies essential to the practice of public health.

MSM is located within the historic West End community in Atlanta. As such, there are ample opportunities for student engagement through participation in service-related activities and community planned events. Our courses equip students with foundation knowledge and concepts essential for them to better understand the needs of the populations they serve. Our community-focused course work and required community engagement ensure a strong service-learning component to our MPH Program.

Master of Public Health Program

Program Mission and Goals

Mission

The mission of the MSM Master of Public Health Program is to develop, through graduate education, public health leaders who are fluent in community-focused public health practice, particularly in underserved communities.

*WE EXIST, BECAUSE WE MUST
Honor the mission, Serve the community, Do the work*

The program's goals to address leadership, education, research and service are as follows:

- Goal I: Excellence in Leadership**
Develop public health leaders, who are fluent in community focused public health practice.
- Goal II: Excellence in Education**
Foster critical thinking and academic rigor while providing a unique connection to community health practice.
- Goal III: Excellence in Research**
Engage in research that addresses the needs of communities with emphasis on underserved populations.
- Goal IV: Excellence in Service**
Create strong sustainable partnerships that will improve the health of underserved populations.

Governance

The MSM MPH program is accredited by the Council on Education for Public Health (CEPH). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health, and public health programs outside schools of public health. CEPH assures quality in public health education and training to achieve excellence in practice, research and service, through collaboration with organizational and community partners. CEPH requires that all programs and schools of public health demonstrate that students have obtained the following competencies: Foundational Public Health Knowledge (12), MPH Foundational Competencies (22), and MSM Master of Public Health - Program Competencies (6).

Master of Public Health Program

The Academic Policy Council (APC) establishes academic policy for the School of Medicine. The APC consists of all department chairs, the Director of the Library, two elected student representatives, and two elected faculty representatives. The faculty standing committee of the MPH Program is the Graduate Education in Public Health (GEPH) Committee which is a subcommittee of the APC.

Graduate Education in Public Health (GEPH): This committee shall oversee the program of study leading degrees in Public Health education. It is the responsibility of the Committee to make policy recommendations concerning admissions, curriculum, evaluation, graduation, progress, remediation and the possible waiver of course work towards awarding of the MPH degree. It shall also recommend individuals to the APC who will be awarded these degrees. The subcommittees of GEPH are Admissions, Curriculum, and Student Academic Progress.

Admissions Committee: The Admissions Committee is responsible for the acceptance of all students entering the MPH Program.

Curriculum Committee: The Curriculum Committee is responsible for the development of a program curriculum that will lead to the fulfillment of the objectives of the program.

Student Academic Progress Committee (SAPC): The SAPC Committee is responsible for monitoring the academic performance and professional behavior of each MPH student.

MPH External Advisory Board: The MPH External Advisory Board is an external body comprised of representatives from community health agencies, public health agencies, alumni, and student representatives. The MPH External Advisory Board currently has three primary roles:

Provide expert advice and guidance in all aspects of the MPH Program, including recruitment, mentoring, curriculum, and development.

Facilitate and promote involvement and collaboration with key partners in the community, government health agencies at the federal, state and local levels, private health partners and foundations, and representatives from the broader corporate community.

Assist the MPH Program in describing and articulating opportunities for collaboration within the broader academic system in Georgia and throughout the United States and abroad.

Master of Public Health Program

Community Engagement

There are ample opportunities for student engagement within the community through participation in service-related activities and community planned events. The Program's core courses equip students with foundational knowledge and concepts essential for them to better understand the needs of the populations they serve. Additionally, Applied Practice Experience – 2 (MPH 690), and Community Health Assessment & Improvement (MPH 508) courses require community engagement ensure a strong service-learning component to our MPH Program. Students are exposed to numerous opportunities for active participation in community engagement.

Student Organization

The Master of Public Health Student Government Association (MPHSGA) is administered by students. The primary function of the organization is to provide students with a greater degree of participation in decision-making processes of the Program. The MPHSGA elects officers for the Executive Board as well as other MPHSGA committees each Spring who serve one-year terms. MPHSGA is a member of the MSM Student Government Association. Additionally, the MPHSGA is actively involved with the American Public Health Association and the Student Wellness Committee.

Alumni Association

All MPH graduates attain membership in the MSM Alumni Association upon graduation. The purpose of the Alumni Association is to promote the welfare and interest of the School of Medicine and support and advance graduate education for public health. The MPH Alumni have also developed a Morehouse MPH Alumni list-serve.

MPH Publications

The following publications also contain additional information for MPH students:

- **MPH Program Course Schedule Listing:** The listing, published each semester, includes course titles, numbers, instructor, time, course hours, day, and location of courses, and is available in the MPH Program office and the MSM Registrar's Office.
- **Applied Practice Experience Guidelines:** The guide outlines policies, procedures, responsibilities, planning, and implementation of this course. Appendices include forms, summaries and a glossary.

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- **Integrative Learning Experience Guidelines:** The guide explains policies and procedures for conducting the student research experience. Descriptions of thesis guidelines are included. Appendices include sample forms, statement and checklists.
- **GEPH Course Policies Guidelines:** The purpose of this guide is to give GEPH students an overall understanding of the program, as well as intuitional policies and procedures. At the start of each semester, students will be required to demonstrate that they have read, and understand the policies and procedures contained in the document.
- **MPH Student Handbook:** On admission to the program, all students receive a copy of the MSM Student Handbook, which contains institutional policies and procedures relevant to student life. Copies are distributed at registration by the Registrar's Office.

MPH Program Admissions Policies & Procedures

There is one admissions cycle per academic year. The program has rolling admissions for Fall admittance beginning September 1st thru April 1st. Only those applications that are complete, including official test score reports, letters of recommendation, and official transcripts, will receive full consideration for admission. Internal and external transfer student applications are accepted during the rolling admission period from students who are enrolled in a school or program of public health that is accredited by CEPH.

The following must be submitted in addition to the online application and a \$50.00 non-refundable application fee to be considered for an interview:

1. Transcripts showing completion of a bachelor's degree, or equivalent, from a U.S. school accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA) or the U.S. Department of Education, or from an appropriately accredited non-U.S. institution is required.
 - a. Applicants who have completed coursework at, or hold a bachelor's or advanced degree from an institution of higher learning outside the U.S. must have their transcript(s) certified for equivalency to U.S. degrees or coursework by a credential evaluation service that is a member of the National Association of Credential Evaluation Services (NACES). Applicants who have completed coursework at, or hold degrees from, a postsecondary institution in Australia, Canada (except Quebec), New Zealand, or the United Kingdom will normally not need to have their academic transcripts evaluated and certified for equivalency.

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2. Graduate Record Examination (GRE) scores (from within the past five (5) years).
3. Three letters of reference.

International applicants are also required to submit Test of English as a Foreign Language (TOEFL) for foreign students whose first language is not English. A passing score on the ECFMG English test is acceptable for foreign medical graduates.

Applicants who have earned a terminal professional degree are exempt from test scores. Applicants must provide their doctoral transcripts or an active professional license.

Application Deadline

Regular Full-time and Part-time students: April 1st

Prospective students may apply over the Internet by visiting the Morehouse School of Medicine website at <http://www.msm.edu/Education/MPH/index.php> and selecting the “Apply” link.

Additional information about application materials and the admissions process may be obtained by calling the Office of Admissions and Student Affairs at (404) 752-1650 or sending an email to MPHadmissions@msm.edu.

Full-time Study (Degree completion in four semesters)

MPH students who register for 12 or more credit hours in the Fall or Spring semester are considered full-time students. A minimum of 12 credit hours per semester is required to complete the MPH degree in four semesters. Students who wish to register for more than 15 credits per semester must obtain permission from their Academic Advisor. All full-time students are billed a flat rate. Academic progress and standards apply to all students.

Part-time Study (Degree completion in five or more semesters)

MPH students who register for 11 credits or less are considered part-time students. Six credit hours per semester are needed to be eligible for financial aid. Academic progress and standards apply to all students.

International Applicants

There are additional requirements for international applicants which are available online. Only U.S. citizens or permanent residents qualify for financial aid. All others must provide proof of financial support.

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Professional Conduct

Public health professionals enter a field demanding high standards of ethical and personal conduct. It is expected that all students enrolled at MSM will conduct themselves according to acceptable professional standards. Students shall be aware of and strive to follow basic concepts of professional conduct at all times. Students are expected to be present and on time, present a professional demeanor and wear professional attire during activities designed by and/or affiliated with the MSM/MPH Program (i.e. class, Applied Practice Experience, interviews arranged by the program, etc.). Students must show respect for all personnel and clients with whom they interact. Incidents of unprofessional conduct will be reviewed by the SAPC and can result in a recommendation of dismissal from the MPH Program.

Academic Regulations

Academic Probation: Academic Probation is a condition which shall be established for a specified period of time with specified contingencies which must be met before the student is removed from the probationary status and returned to good standing. If contingencies are not met to remove the probationary status, a recommendation for dismissal from the MPH Program will follow. A student may be placed on Academic Probation for deficiencies in academic performance, professional behavior and/or academic honesty. Any student placed on probation will receive a letter from SAPC with the terms and conditions of the probationary period. The terms of the probationary period include ineligibility to hold any elected office and/or limitation of the student's participation in institutionally recognized, organized and/or sponsored extra-curricular activities. Additionally, while on probation, a student cannot serve as a representative of the MPH Program or MSM at meetings and conferences.

A student is placed on academic probation anytime the GPA falls below a 3.0 or if they earn a C or F in a core, track or pre-requisite elective. Students on academic probation are restricted to a maximum of six (6) hours in the next semester of enrollment. A student must regain good academic standing (3.0 GPA or resolve the C or F) in order to be removed from academic probation. A student on academic probation who continues to make unsatisfactory progress in the subsequent semester will be administratively withdrawn from the MPH Program.

Academic Program

The MPH Program offers a generalist curriculum consisting of core courses (28 credit hours) and elective courses (14 credit hours). In addition, all students must complete an Applied Practice Experience (3 credit hours), an Integrative Learning Experience (3 credit hours), and MPH Seminars (1 credit hour).

Master of Public Health Program

Core Courses and Electives

The core courses offered by the MPH Program are designed to provide a foundational perspective of the public health profession. MPH students are required to take all Core Courses at MSM. Core areas include:

- Biostatistics
- Environmental Health Sciences
- Epidemiology
- Health Policy Management
- Social and Behavioral Sciences

The electives offered ensure students have an integrated interdisciplinary, cross-cutting set of competencies in all domains. Electives are also offered through the Atlanta Regional Council for Higher Education (ARCHE).

| Core Courses | Semester Credit Hours |
|--|-----------------------|
| Biostatistics | 3 |
| Environmental Health | 3 |
| Epidemiology | 3 |
| Health Administration, Management & Policy | 3 |
| Social and Behavioral Aspects of Public Health | 3 |
| Fundamentals of Public Health | 3 |
| Research Methods | 3 |
| Community Health Assessment & Improvement | 3 |
| Health Program Planning & Evaluation | 3 |
| MPH Seminars | 1 |
| Electives | |
| 7 courses | 14 |
| Directed Study | 1-3 |
| Other Degree Requirements | |
| Applied Practice Experience | 3 |
| Integrative Learning Experience | 3 |
| Total Number of Credit Hours | 48 |

Master of Public Health Program

All requirements for the MPH degree must be completed within five calendar years of commencing the program. Leave of absence and withdrawal from the program will be granted in accordance with the guidelines set forth in the MSM Student Handbook. If a student withdraws or takes a leave of absence while on academic probation, the probationary period resumes upon return.

Each student's continued enrollment in the MPH program is contingent upon academic progress and the demonstration of conduct consistent with high standards of professionalism and personal honesty.

Grading System

D is not a letter grade used in the MPH program's grading system.

*Indicates grade not included in the calculation of a student's grade point average (GPA).

| Grade | Meaning | Grade Points | Credits |
|-------|--------------------------|--------------|---------|
| A | Superior work | 96-100 | 4.0 |
| A- | | 90-95 | 3.7 |
| B+ | | 85-89 | 3.3 |
| B | Satisfactory | 80-84 | 3.0 |
| B- | Less than Satisfactory | 75-79 | 2.7 |
| C | Marginal | 70-74 | 2.0 |
| F | Failing | | 0.0 |
| P | Pass | | * |
| W | Withdraw without penalty | | * |
| WF | Withdraw while failing | | 0.0 |
| IP | In progress | | * |
| I | Incomplete | | * |

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Cumulative grade point averages will be calculated each semester. The GPA is computed by (1) multiplying the points earned by the course credit hours; and (2) dividing this product by the total number of semester hours carried. The minimum standard for graduate work leading to the Master of Public Health degree is a B average (3.0 GPA). Only grades of A and B may be modified as A-, B+, B-.

No course credit will be allowed for an F, W, WF, IP*, or I. When a course, seminar, or research activity is intended to last more than one semester, the notation IP* (In Progress) is made at the end of each grade period until the final grade is given. When assigned work is not completed during a prescribed period, the notation “I” may be given with consent of the instructor. If the work is not satisfactorily completed within the time allowed by the instructor, up to one year, a final grade of F is given.

Advisement

MPH Student Advisement Process

The academic advisement process is intended to ensure that all students receive guidance and direction in completing the prescribed plan of study. Full-time and part-time students receive academic advisement that guides their curriculum plan for their matriculation in the program.

The quality of a student’s performance, academic experience, and preparation for a public health career begins with the successful recruitment of students and is greatly enhanced by faculty and staff advising and mentoring. Academic advising is a series of intentional interactions throughout the educational process that connects the student to our institution and program. Academic advising supports the institutional and program mission of developing public health leaders who are fluent in community-focused public health practice, particularly in underserved communities. Students may approach advisors with concerns about academic performance, career pathways, personal concerns, registration, progress towards their degree, and much more. The resources and information compiled in this guide will help to answer many student questions. At the onset of enrollment, students are introduced to policies and procedures during the program orientation sessions. Each student is randomly assigned to a core faculty advisor for advising. Each graduate student is preassigned an academic advisor, who will help advise your course of study. Your advisor will be a GEPH core faculty member and/or staff member at Morehouse School of Medicine Graduate Education in Public Health.

Master of Public Health Program

Core Courses (28 credit hours): All students are required to complete the following core courses:

MPH 500 Biostatistics (3 credit hours)

Biostatistics is essential to ensuring that findings and practices in public health and biomedicine are supported by reliable evidence. This course covers the basic tools for the collection, analysis, and presentation of data in all areas of public health. Central to these skills is assessing the impact of chance and variability on the interpretation of research findings and subsequent recommendations for public health practice and policy.

MPH 501 Introduction to Environmental Health (3 credit hours)

This introductory course in environmental health will provide a scientific survey of human interactions with the natural and built environments of the earth, and how anthropogenic stressors can ultimately influence public health and environmental quality. Physical and social environments are important determinants of health of individuals and communities.

MPH 502 Epidemiology (3 credit hours)

Epidemiology is one of the pillars of public health. Epidemiologists study the distribution and determinants of disease in populations; they also develop and test ways to prevent and control disease. This course provides an introduction to basic epidemiologic concepts, methods and data sources for students in all fields of public health. A major emphasis is placed on the principles and methods of epidemiologic investigation including experimental, cohort, and case-control studies. Bias, confounding, and random error, including the use of classical statistical approaches to describe the health of populations will also be covered. The course also introduces the concept of effect measure modification.

MPH 503 Health Administration, Management and Policy (3 credit hours)

The course provides a comprehensive overview of the fundamentals of organizational structure and management. A review of the major theories of organizational management will provide a theoretical framework for understanding various management models. Course instruction will blend management theory with practical application. The course will also address the role of the manager as it pertains to leadership and authority and explore the concepts of leadership and emotional intelligence. Students will be introduced to the relevance of community involvement and cultural diversity in the administration and management of health programs and projects. The policy component of this course will focus on understanding policy development and implementation within an organization and how policy impacts organizational goals, workers, customers, communities and select populations.

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MPH 504 Social and Behavioral Aspects of Public Health (3 credit hours)

This course will focus on the contribution of social and behavioral sciences to the understanding of the distribution, etiology, and solution of public health problems. Given that many public health interventions have as their goal to change the health behavior of a population or community, understanding the process of behavior change is critical to designing effective programs. Thus, a critical analysis will be conducted of the major theories and the research that supports them. The theoretical foundations of the most relevant explanation, planning, change, and evaluation theories will be reviewed in depth and illustrated with examples of the application of these models to health promotion and disease prevention with individuals, groups, and communities while emphasizing a community-focused approach to health and illness.

MPH 505 Fundamentals of Public Health (3 credit hour)

Fundamentals of Public Health, an interdisciplinary foundational course for students, is designed to improve their analytical and practical skills in the essential principles (values, ethics and attitudes) and core competencies in public health. The course familiarizes students with key concepts such as equity, human rights, social justice, gender, development, underdevelopment, globalization, and structural adjustment policies and their impact on domestic and global health issues.

MPH 506 Research Methods (3 credit hours)

Research is the necessary foundation for meaningful improvements in clinical and public health practice. This research methods course provides a practical, step-by-step guide to the research process. The course introduces students to basic methods for research design, methodology and technique, format and presentation, and data management and analysis informed by commonly used statistical methods. This course covers the entire research process from identifying a study question and selecting a study approach to collecting and analyzing data to disseminating the findings. It includes detailed information about how to conduct primary studies (collection of new data), secondary analyses (analysis of existing data), and tertiary studies (literature reviews). Elements of research ethics will be discussed throughout the course.

MPH 508 Community Health Assessment and Improvement (3 credit hours)

Prerequisite: MPH 505 Fundamentals of Public Health

This course is designed to provide students with the knowledge and skills that are required to assess and organize communities for health promotion interventions. Further, this course will provide integrated materials on theories, strategies, and tactics that lead to health improvement in communities.

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MPH 510 Health Program Planning and Evaluation (3 credit hours)

The course will provide instruction on the design, conduct, and supervision of a program evaluation. It will serve as an “in-depth” introduction for those who have little experience by presenting time-tested principles and techniques; examine methods used to assess key parameters of various programs and intervention such as: public health education, psychoeducational, health promotion, and training programs. Program evaluation components reviewed in the course will include elements that document the scope, intensity, magnitude, efficacy, evaluability, and efficiency of social and behavior-based interventions; provide opportunities for students to formulate program evaluation plans. It will explore ways to determine the appropriateness of various measurement methods applied to program evaluation; and strengthen participants’ abilities to identify and describe ways to use program monitoring and feedback systems to perform credible program performance reviews.

Other Required Courses (6 credit hours)

MPH 690 Applied Practice Experience (3 credit hours)

Prerequisite: MPH 508 Community Health Assessment and Improvement

The Applied Practice Experience (APE) is designed to enhance and support the education and training of future public health leaders and practitioners through effective usage of public health knowledge and community engagement (field work). There are two components of APE: An applied public health practice experience and community engagement. The goal of the APE is to demonstrate competency attainment, through an applied practice experience (360 hours) and community engagement (120 hours), where students are afforded an opportunity to synthesize and integrate public health theory and skills acquired from coursework and other learning experiences.

MPH 691 Integrative Learning Experience (3 credit hours)

Prerequisite: MPH 506 Research Methods

The goal of the Integrative Learning Experience (ILE) is to provide students the opportunity to demonstrate their ability to critically examine selected issues related to public health, review relevant scholarly and professional literature, and write an analysis based on that review. It also provides an opportunity for students to design and implement an original research study that contributes to the knowledge base of the public health profession. Furthermore, the ILE is a comprehensive and integrative exercise that requires students to synthesize knowledge and competencies developed in professional development and academic courses.

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MPH 699 Public Health Seminars (1 credit hour)

Public Health Leadership Seminars exposes student to innovated leaders in public health who explore a variety of issues and strategies used in public health and provide a forum for exchange on contemporary practice and theory. Local, regional, and national leaders present on selected topics and students interact in a roundtable format. Students must attend two seminars per semester for a total of 8 to meet the graduation requirements.

Electives (14 credit hours)

MPH 517 Statistical Computer Methods (3 credit hours)

This course introduces computer methods and programming used in the management and analysis of public health data. Students will be introduced to the SPSS and SAS programs

MPH 507 Grant and Proposal Development (2 credit hours)

The design of this course familiarizes public health students (and others) with specific written and oral communication skills needed to develop successful, competitive grants and proposals for domestic and international health programs, public and private programs and community-based organizational settings. The course incorporates a focus on cultural competency while establishing fundamental proposal development skills that facilitate public health practice. This basic course on grant and proposal development is didactic, experiential, and supported by computer informational resources designed to provide students with an introduction to the challenging arena of proposal construction and submission.

MPH 511 Financial Management for Health Administrations (2 credit hours)

This course in Financial Management for Public Health Managers is divided into two modules: Economics in Public Health, and Public Health Budgeting and Financial Management. The overall goal of this course is to introduce students to the principles and practices of healthcare finance as they relate to economics, budgeting, financial management and reporting in public health. Module 1 - Economics in Public Health will introduce students to the role of economics in public health. It will provide students with knowledge of the contemporary health economic principles utilized by public, private, and non-profit health organizations to analyze and solve real world public health related resource allocation problems. Module 2 - Public Health Budgeting and Financial Management will focus on understanding and applying the concepts and principles associated with budgeting, financial analysis, revenue management and management of financial resources. Additionally, the role of information systems and integrated systems management will be presented. Emphasis will be placed on financial management in public health.

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MPH 534 Health Communications (3 credit hours)

For public health/health science students, this course is intended to complement courses in social and behavioral approaches to community health. This includes the intervention core in Community Health Education and the social and behavioral science perspectives in MPH programs in general. This course is primarily a critical review of theory, research, and applications of mass media in public health but also includes discussion of planning principles in developing media-based public health interventions.

MPH 535 Public Health Emergency Preparedness and Disaster Management (2 credit hours)

This course is designed to introduce students to the administrative, management, clinical, environmental, and social issues relevant to emergency preparedness and the management of disasters at all levels of government. This course provides an overview of the fundamentals of emergency preparedness and disaster management. Additionally, it examines the role of federal, state and county agencies in each of the five phases of emergency preparedness. The role of local public health departments as it relates to leadership, organizational readiness, resource allocation, communications, information gathering and dissemination, and clinical and environmental interventions will also be briefly explored. Students will be introduced to the importance of community involvement and the need for cultural competency in the management of disasters which affect underserved, diverse, and multi-cultural populations.

MPH 622 Bridges to Health Equity (3 credit hours)

Prerequisite: MPH 500 Biostatistics and MPH 502 Epidemiology

This course is designed to help learners understand the ways that individual, social, institutional and historical injustice impact health disparities; and provide instruction in the concepts, methods, key issues, and research tools necessary for conducting health equity research, with particular emphasis on the research frameworks applicable to understanding and intervening in the social determinants of health to achieve health equity. The course will provide a platform for interdisciplinary discourse on the impact of the intersection of race/ethnicity, socioeconomic status, gender, sexuality, and environment on how people grow, live, work, and age.

MPH 625 Spheres of Ethics (3 credit hours)

This course will provide a philosophically grounded introduction to ethics. This introductory course discusses ethics evolution from theology and philosophy to ethics and includes, but not limited to: morality, virtual ethics, bioethics, and public health ethics. Ethical approaches to social justice will provide a unifying framework for examining public health, racial and ethnic health issues, health and health care disparities. The

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course introduces the students to programmatic and research strategies for shaping individual, group, community, public health, and public policy.

MPH 693/694 Directed Study (1-3 credit hours)

Directed study is an MPH course in which students pursue independent research under the guidance of a MSM faculty member. Students can complete a directed study to pursue in-depth research in a general area covered in a course or to explore a topic not normally covered in the curriculum.

MPH 702 Cancer Epidemiology (2 credit hours)

The goal of this course is to provide an overview of the important concepts and tools fundamental to the understanding, design, and conduct of cancer epidemiology studies. It will provide an overview of the biology of cancer, as well as the major epidemiologic concepts critical to cancer epidemiology. We will study many of the major cancer sites, including breast, lung, colon, prostate, cervix and melanoma, reviewing descriptive data on incidence and mortality, risk factors, and methodological issues involved in studying these cancers. We will review several major risk factors for cancer, including tobacco, nutrition, infections, and environmental exposures.

MPH 704 Introduction to Cancer Prevention and Control (2 credit hours)

Cancer is the second leading cause of death in this country, making its prevention and control important in public health practice. This urgency is exacerbated by the existence of racial/ethnic disparities in cancer incidence, morbidity and mortality. Using an integrative, collaborative and translational approach, this course is designed to examine concepts, methods, issues, and applications related to cancer risk reduction. Students will gain access to a broad perspective on scientific and public health practice. The spectrum of research and practices including primary prevention (such as factors related to diet, physical activity and tobacco use and secondary prevention (screening) will be studied in detail.

MPH 705 The Politics of Health Care Policy (3 credit hours)

This course has three primary goals – to teach MPH students (1) that the formation of health policy is a political exercise; (2) how politics – primarily the concern of politicians to be elected and re-elected – influences health policy legislation; and 3) how health policy impacts the delivery of services to vulnerable populations and uninsured individuals. By having a better understanding of and appreciation for the politics behind health policy, students will be more effective advocates for policies and programs that meet the needs of at-risk populations, vulnerable groups, and the uninsured.

Preventive Medicine Courses

MPH 701 Advanced Epidemiology (3 credit hours)

Prerequisite: MPH 502 Epidemiology

Preventive Medicine Resident Required Course

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This course provides a broader and more in-depth presentation of epidemiologic concepts and methods with the aims of advancing epidemiologic reasoning abilities and enhancing proficiency for epidemiologic research and practice. It provides a more rigorous presentation and discussion of specific epidemiologic concepts, methodological issues and principles which underlie analytical techniques for advancing scientific inquiry and program decision making.

MPH 710 Environmental Risk/Hazard Assessment, Control and Communication (3 credit hours)

Preventive Medicine Resident Required Course

MPH 711 Clinical Preventive and Population Health Services (3 credit hours)

Prerequisite: MPH 507 Grant and Proposal Development

Preventive Medicine Resident Required Course

The mission of this course is to contribute increase the extent to which content in clinical prevention and population health services is included in health professional education. The aim of this course is for students to understand the evidence that is needed to produce and interpret evidence-based recommendations (e.g. from the U.S. Preventive Services Task Force) for preventive interventions or services for individuals and communities. The approaches to integrative and lifestyle medicine will be reviewed. Case studies, interactive sessions, the use of relevant electronic resources, and standardized patient encounters will enhance student understanding of important concepts, illustrate the use of the evidence and the implications of the recommendations.

MPH 712 Advanced Biostatistics (3 credit hours)

Prerequisite: MPH 500 Biostatistics

Preventive Medicine Resident Required Course

This course is designed for students to have advanced knowledge on common and advanced statistical methodologies by applying them into practical application in biomedical and public health fields with abilities of performance of computational application and to have better understanding on the statistical/data analysis in the medical literature. This course covers fundamental theory and background of the methods computational application using SAS/SPSS's/Sigma plot, interpretation of the analysis results, and prepared for the final analysis report. The main theme of the course is related with construction and analysis of multivariable models using regression analysis and ANOVA methods that include analysis of covariance (ANCOVA) and repeated measures analysis.

Morehouse School of Medicine reserves the right to terminate or modify program requirement content, and the sequence of program offerings from semester to semester or year to year, for educational reasons which it deems sufficient to warrant such actions.

Master of Public Health Program

Further, MSM reserves the right to terminate programs for financial or other reasons which it determines warrant such action. The content, schedule, requirements, and means of course presentation may be changed at anytime by the School of Medicine for educational reasons which it determines are sufficient to warrant such action. Programs, services or other activities of the School may be terminated at any time due to reasons beyond the control of the School including but not limited to, acts of God, natural disasters, destruction of premises, labor disturbances, governmental order, financial insolvency, or other reasons or circumstances beyond the control of the School.

Morehouse School of Medicine



PHYSICIAN ASSISTANT STUDIES



Physician Assistant Studies

Program Faculty

| | |
|---|----------------------------------|
| Assistant Dean, Program Director/ Assistant Professor: | Pangela H. Dawson, PhD, PA-C |
| Associate Director/Academic Director/ Assistant Professor: | Donny Ard, PhD, MHA, PA-C |
| Assistant Clinical Director/Instructor: | Ijeoma Amobi, DMSc, MS, PA-C |
| Community Engagement Director, Instructor: | Stephanie Y. Banks, MPH |
| Curriculum Innovation and Evaluation Director/Associate Professor: | Sheena D. Brown, PhD, MSCR |
| Clinical Instructor: | Diane Griggs, NP-C |
| Interim Admissions Director | Charlene Justin, MMSc, PA-C, OT |
| Interim Clinical Director/Associate Professor: | Debra F. Nickell, PhD, MBA, PA-C |
| Medical Director/Professor: | Folshade Omole, MD, FAAFP |

Adjunct Faculty

| | |
|---|--|
| Adjunct Instructors/Assistant Professors: | Ebony Blackmon MSPAS, PA-C Omofolarin Fasuyi, MD, MPH Sabrina Jackson-Botts, MMSc-PA-C Donna Murray, DMSc, MS, PA-C Candace Wooten, MS, PA-C |
|---|--|

Program Staff

| | |
|------------------------------|-------------------------|
| Program Manager: | Mieshia Baker-Dunn, MBA |
| Program Coordinator: | Corey Smith, MBA |
| Curriculum Manager: | Tyra Willingham, MPH |
| Clinical Curriculum Manager: | Keisha Chandler, MPA |
| Program (HRSA PALs Grant): | Roselle Caruth, MEd |

MSM PA Admissions Process

CASPA Application

The MSM PA program participates in the Central Application Service for Physician Assistants. The online application deadline is Sept 1st. The fee is based on the number of programs to which an applicant applies. All candidates must submit official transcripts from the regionally accredited universities or colleges directly to CASPA. Transcripts should not be sent to MSM. For questions about completing the online application, please contact CASPA at caspainfo@caspaonline.org.

Physician Assistant Studies

The MSM PA program participates in the Central Application Service for Physician Assistants. The online application deadline is Sept 1st. The fee is based on the number of programs to which an applicant applies. All candidates must submit official transcripts from the regionally accredited universities or colleges directly to CASPA. Transcripts should not be sent to MSM. For questions about completing the online application, please contact CASPA at caspainfo@caspaonline.org.

The MSM PA Program requires applicants to submit three letters of reference directly to CASPA. Letters of reference from a PA or physician, academic professor and former employer are recommended.

The MSM PA Program requires applicants to submit official scores for the Graduate Record Exam or MCAT taken within the past five years. Applicant scores must be directly reported from ETS to CASPA. Use GRE Institution Code 2552. **OR** when submitting MCAT scores, applicants must request AAMC to send scores directly to CASPA. Applicants must also self-report MCAT scores in the Standardized Test section of the CASPA application.

Health Care Experience

The MSM PA Program requires applicants to complete a minimum 500 hours of direct patient care experiences (e.g., EMT or paramedic, health educator, RN, patient care attendant or nurse's aide, clinic assistant, Peace Corps volunteer or other cross-cultural health care experience, technologist, therapist, clinical research assistant, etc.). Documentation for these items must be submitted directly to CASPA.

Physician Assistant Shadowing

The MSM PA Program **does not** require a minimum number of PA shadowing hours. While this is not a requirement, we strongly recommend applicants complete shadowing hours with physician assistants to gain exposure to the scope of practice.

Advanced Placement and Transfers

All courses and academic activities are required. There is no provision for exemption of classes, part-time participation, advanced placement or transfer of academic credit at this time.

Prerequisite Coursework

Completion of bachelor's degree from a regionally accredited college or university prior to matriculation into the program. (Completion of your bachelor's degree is required by May of the year of program entry.) Prerequisite coursework must be taken from a regionally accredited college or university. Prerequisites must be completed with a grade of "C" or better.

A minimum science and cumulative grade point averages (GPA) of 3.0 on a 4.0 scale must be achieved. (A 3.0 GPA for last 60 hours of undergraduate coursework will be considered for candidates with less than a 3.0 cumulative undergraduate GPA. Additionally, the program will consider a cumulative graduate/post-baccalaureate GPA, if at least 20 credit hours are completed.)

Physician Assistant Studies

| Coursework | Semester credit hours |
|---|-----------------------|
| Biology with lab | 8 |
| Microbiology | 3 |
| Organic Chemistry I with lab | 4 |
| Organic Chemistry II with lab OR Biochemistry | 4 |
| Human Anatomy or Anatomy & Physiology I w/Lab | 4 |
| Human Physiology or Anatomy & Physiology II w/Lab | 4 |
| Statistics | 3 |
| Psychology | 3 |

*Please note: 200-level equivalent (sophomore level) course or above is necessary to meet the requirement. These courses usually require a freshman level (100-level equivalent) prerequisite course.

*Course work must be in semester credit hours or the equivalent quarter hours by the following formula 1 quarter hour = .67 semester hour. Example: 5 quarter hours = 3.35 semester hours.

The Morehouse School of Medicine is an equal opportunity institution and welcomes applications for employment or admission regardless of race, creed, color, national or ethnic origin, gender, sexual orientation, age, disability or religion. Please see the [Matriculation Requirements](#) page regarding additional requirements for admitted students such as matriculation deposit, health status forms & immunizations, proof of insurance, BLS certification, drug screens, and background checks. (All materials submitted become the property of the MSM Physician Assistant Program and cannot be returned to the applicant.)

TECHNICAL STANDARDS AND COMPETENCIES

All students must be able to perform the technical skills listed below for successful completion of the Morehouse School of Medicine Physician Assistant Program.

1. Observation

- Observe demonstrations and conduct experiments in the basic sciences.
- Observe a patient accurately at a distance and close at hand, noting non-verbal as well as verbal signals. This ability requires functional vision, hearing, and somatic sensation.

Physician Assistant Studies

2. Communication

- Relate effectively with patients, conveying a sense of respect, compassion, and empathy. A student must be able to communicate clearly with and observe patients in order to elicit information, accurately describing changes in mood, activity and posture, and perceive verbal as well as non-verbal communications.
- Communicate with patients, their family members, and the health care team through oral, written, and electronic forms.

3. Sensory and Motor Coordination or Function

- Demonstrate sufficient sensory and motor function to perform a physical examination utilizing palpation, auscultation, percussion, and other diagnostic maneuvers.
- Execute prompt, precise, and appropriate responses to provide general and emergency care to patients.
- Manipulate equipment and instruments to perform medical procedures required to attain curricular goals and patient care (e.g. needles, stethoscope, ophthalmoscope, tongue blades, intravenous equipment, gynecologic speculum, and scalpel).
- Perform basic laboratory tests (urinalysis, complete blood count, etc.), and diagnostic and therapeutic procedures (phlebotomy, arterial blood gas drawings, lumbar puncture, arthrocentesis, etc.).

4. Cognitive, Integrative and Quantitative Abilities

- Conceptualize, integrate and qualitatively analyze information derived empirically and rationally for problem solving and decision-making. This includes abilities to reason, calculate, analyze, measure and synthesize information in a variety of settings, including those that may be urgent with increased transient stress and distractions. variety of educational settings, including lectures, small group discussions, and individual clinical settings.
- Comprehend three-dimensional relationships and spatial relationships of structures, including anatomical structures.
- Collect, organize, prioritize, analyze and assimilate large amounts of technically detailed and complex information within a limited time frame. This information will be presented in a variety of educational settings, including lectures, small group discussions and individual clinical settings.

5. Behavioral and Social Attributes

- Demonstrate empathy, integrity, honesty, concern for others, good interpersonal skills, interest and motivation as these personal qualities are all required during the educational training process and in-patient care.
- Possess the emotional health required for full use of their intellectual abilities, that includes the exercise of good judgment, prompt of all educational and clinical responsibilities, and the development of mature, sensitive and effective professional relationships with patients and member of the medical team.
- Possess adequate endurance to tolerate mentally and physically taxing workloads and adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical problems of many patients.

Physician Assistant Studies

COMPETENCIES DEFINITIONS

The MSM PA Program has modified the list of domains and competencies developed by the four main PA Organizations: NCCPA, ARC-PA, PAEA, and AAPA. Additional domains have been added related to the program mission. Social accountability remains at the core of the Institution's mission and as such has also been added to the list of competencies. These professional competencies include the effective and appropriate application of medical knowledge; interpersonal and communication skills; patient care; professionalism; practice-based learning and improvement; systems-based practice; as well as an unwavering commitment to continual learning, professional growth, and the physician-PA team. The MSM PA Program has also implemented the use of Core Entrustable Professional Activities (EPAs) to supplement the professional competencies.

DOMAIN I: Patient Care - Provide patient-centered care that is compassionate appropriate, and effective for the treatment of health problems and the promotion of health.

| | |
|------|--|
| PC1 | Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. |
| PC2 | Gather essential and accurate information about patients and their conditions through history-taking, physical examination, and the use of laboratory data, imaging, and other tests. |
| PC3 | Organize and prioritize responsibilities to provide care that is safe, effective, and efficient. |
| PC4 | Interpret laboratory data, imaging studies, and other tests required for the area of practice. |
| PC5 | Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment. |
| PC6 | Develop and carry out patient management plans. |
| PC7 | Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making. |
| PC8 | Provide appropriate referral of patients including ensuring continuity of care throughout transitions between providers or settings and following up on patient progress and outcomes. |
| PC9 | Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health. |
| PC10 | Provide appropriate role modeling. |

Physician Assistant Studies

DOMAIN 2: Knowledge for Practice - Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

| | |
|-----|---|
| KP1 | Demonstrate an investigatory and analytic approach to clinical situations. |
| KP2 | Apply established and emerging bio-physical scientific principles fundamental to health care for patients and populations. |
| KP3 | Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision-making, clinical problem-solving and other aspects of evidence-based health care. |
| KP4 | Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations. |
| KP5 | Apply principles of social-behavioral sciences to provision of patient care, including assessment of the impact of psychosocial and cultural influences on health, disease, care seeking, care compliance, and barriers to and attitudes toward care. |
| KP6 | Contribute to the creation, dissemination, application, and translation of new health care knowledge and practices. |

DOMAIN 3: Practice-Based Learning Improvement - Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

| | |
|--------|---|
| PBLI 1 | Identify strengths, deficiencies, and limits in one's knowledge and expertise. |
| PBLI 2 | Identify and perform learning activities that address one's gaps in knowledge, skills, |
| PBLI 3 | Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement. |
| | |
| | Locate, appraise, and assimilate evidence from scientific studies related to patients' |
| PBLI 6 | Use information technology to optimize learning. |
| | Participate in the education of patients, families, students, trainees, peers, and other |
| | Obtain and utilize information about individual patients, populations of patients, or |
| PBLI 9 | Continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcomes. |

Physician Assistant Studies

DOMAIN 4: Interpersonal and Communication Skills - Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families and health professionals.

| | |
|-------|--|
| ICS 1 | Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds. |
| ICS 2 | Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health related agencies. |
| ICS 3 | Work effectively with others as a member or leader of a health care team or other professional group. |
| ICS 4 | Maintain comprehensive, timely, and legible medical records. |
| ICS 5 | Demonstrate sensitivity, honesty, and compassion in difficult conversations, including those about death, end of life, adverse events, bad news, disclosure of errors, and other sensitive topics. |
| ICS 6 | Demonstrate insight and understanding about emotions and human responses to emotions that allow one to develop and manage interpersonal interactions. |

DOMAIN 5: Professionalism - Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

| | |
|-----|---|
| P 1 | Demonstrate compassion, integrity, and respect for others. |
| P 2 | Demonstrate responsiveness to patient needs that supersedes self-interest. |
| P 3 | Demonstrate respect for patient privacy and autonomy. |
| P 4 | Demonstrate accountability to patients, society, and the profession. |
| P 5 | Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation. |
| P 6 | Demonstrate a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations. |

Physician Assistant Studies

DOMAIN 6: Systems Based Practice - Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

| | |
|-------|---|
| | Work effectively in various health care delivery settings and systems relevant to |
| SBP 2 | Coordinate patient care within the health care system relevant to one's clinical specialty. |
| | Incorporate considerations of cost awareness and risk-benefit analysis in patient and/ |
| SBP 4 | Advocate for quality patient care and optimal patient care systems. |
| SBP 5 | Participate in identifying system errors and implementing potential systems solutions. |

DOMAIN 7: Interprofessional Collaboration - Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care.

| | |
|-------|---|
| IPC 1 | Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust. |
| IPC 2 | Use the knowledge of one's own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served. |
| | Communicate with other health professionals in a responsive and responsible manner that supports the maintenance of health and the treatment of disease in individual patients and populations. |
| | Participate in different team roles to establish, develop, and continuously enhance interprofessional teams to provide patient- and population-centered care that is safe, timely, efficient, effective, and equitable. |

Physician Assistant Studies

DOMAIN 8: Personal and Professional Development - Demonstrate the qualities required to sustain lifelong personal and professional growth.

| | |
|-------|--|
| PPD 1 | Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors. |
| PPD 2 | Demonstrate healthy coping mechanisms to respond to stress. |
| PPD 3 | Manage conflict between personal and professional responsibilities. |
| PPD 4 | Practice flexibility and maturity in adjusting to change with the capacity to alter one's behavior. |
| PPD 5 | Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients. |
| PPD 6 | Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system. |
| PPD 7 | Demonstrate self-confidence that puts patients, families, and members of the health care team at ease. |
| PPD 8 | Recognize that ambiguity is part of clinical health care and respond by utilizing appropriate resources in dealing with uncertainty. |

DOMAIN 9: Social Accountability in the Practice of Medicine - Prioritize and address community health outcomes through civic engagement, ethical leadership and global social responsibility while delivering equitable and sustainable health care based on the tenets of social accountability.

| | |
|------|--|
| SA 1 | Define, explain and apply the principle of social accountability in the practice of medicine in clinical and community settings. |
| SA 2 | Define, explain and apply principles of social justice to healthcare in the practice of medicine in clinical and community settings. |
| SA 3 | Identify, explain, and apply the physician assistant's commitment to health equity in service to underserved, vulnerable, disenfranchised, and special populations. |
| SA 4 | Identify, explain and apply basic public health principles, practices, and sciences to the practice of medicine in clinical and community settings. |
| SA 5 | Identify, explain and integrate determinants of health (social, political, cultural, environmental, biology, etc.) in the practice of medicine at the levels of the individual patient, family, community and society. |
| SA 6 | Examine, explain and integrate principles of civic engagement, ethical leadership and global social responsibility in the practice of medicine in clinical and community settings. |
| SA 7 | Assess and address the factors influencing the use of health services. |
| SA 8 | Examine and influence health policy-making efforts at the local and national levels. |
| SA 9 | Identify, explain and apply the physician assistant's role as health advocate in clinical and community settings. |

Physician Assistant Studies

Professionalism

Physician Assistant students enter a field demanding high standards of ethical and personal conduct. It is expected that all students enrolled at MSM will conduct themselves according to acceptable professional standards. It is the students' moral duty to act appropriately in matters relating to ethical conduct. Professionalism will be documented in the didactic and clinical phases and assessed by course directors, instructors, faculty advisors, and preceptors. Standards of professional behavior include: 1. Excellence; 2. Accountability; 3. Interpersonal skills; 4. Ethical behavior; 5. Timeliness; and 6. Self-awareness. Any violation and disregard for professionalism may result in disciplinary action including dismissal from class/activity and/or written documentation (Professional Misconduct Form Evaluation Form) that will be recorded in the student's file. A third violation will necessitate a meeting with the PA Student Academic Progression and Promotion Committee (PA SAPP). If an incident is determined to be egregious, the PA SAPP committee and the Office of Student Affairs will be notified immediately.

For additional information on Institutional professionalism standards, refer to the MSM Student Handbook: https://www.msm.edu/Current_Students/StudentHandbooks.php

Professionalism is an integral part of PA education which is taught explicitly and implicitly within the curriculum. Students and faculty are expected to adhere to the <https://www.aapa.org/wp-content/uploads/2017/02/16-EthicalConduct.pdf> and all Department and Institution policies related to professional behavior.

PROGRAM PROGRESSION REQUIREMENTS

Requirements for Successful Completion of the Didactic Phase

Successful completion of the Didactic Phase of the MSM PA Program requires that students have met all of the following:

- Demonstrated compliance with all policies and procedures published by MSM and the MSM PA Program
- Demonstrated compliance with the MSM PA Program's professionalism and student code of conduct expectations
- Earned a grade of 70% (C) or higher for all didactic courses
- Minimum Cumulative 3.0 GPA
- Passed all practical and written pre-clinical examinations (OSCE)
- Achieved minimum competent threshold in required MSM PA Program all competency domains and EPAs.

Physician Assistant Studies

Preclinical Examinations

Prior to the completion of the Summer II semester, a comprehensive multiple-choice written examination covering concepts learned during the Didactic Phase will be administered. Additionally, a practical examination (OSCE) will be given. The purpose of these examinations is to provide the Program with a measure of each student's base of medical knowledge and preparedness for the Clinical Phase. Students who earn a grade of less than 70% (C) will be required to remediate area(s) of deficit and may be referred to the SAPP Committee for recommendations on progression in the Program.

Requirements for Progression to the Clinical Phase

Progression into the Clinical Phase of the MSM PA Program requires that students have met all of the following:

- Successfully completed the Didactic Phase
- Maintained a current health insurance policy (Any student who does not maintain a current health insurance policy during the Clinical Phase will be removed from clinical rotations until compliance has been established.)
- Provided proof of up-to-date status of all required immunizations and a negative PPD (or chest radiograph for conversions) (Students who are not up-to-date on immunizations will not be allowed to progress to the Clinical Phase.)
- Maintained a clear criminal background check
- Tested negative on drug screening as required by clinical rotation site(s)
- Provided the Program and clinical team with up-to-date personal and emergency contact information
- Completed any additional clinical rotation site requirements (credentialing process)

A student who does not complete the first year of the program in good academic standing will be required to complete appropriate remedial work before receiving permission to participate in clinical rotations.

PROGRAM GRADUATION REQUIREMENTS

To qualify for graduation from the MSM PA Program and be eligible to confer a Master of Science Physician Assistant Studies Degree, students must complete the entire PA curriculum within 48 months of matriculation:

- Complete all of the MSM PA Program approved courses with a minimum of a "C" grade or better
- Satisfactorily complete all PA program courses with a minimum cumulative grade point average of 3.00
- Achieved minimum competent threshold in all MSM PA Program competency domains and EPAs
- Successfully pass the pre-clinical examination
- Successfully pass the summative exam

Physician Assistant Studies

- Receive a favorable recommendation for master's degree conferral from the Student Academic Progress and Promotion (SAPP) Committee, Program Director, Associate Dean of Student Affairs, the MSM Academic Policy Council (APC) and the MSM Board of Trustees.
- Settle all financial accounts with the Institution
- Complete all graduation clearance requirements as instructed by the Registrar

SUMMATIVE EXAMINATIONS

Students will undergo a summative evaluation of cumulative knowledge and skills prior to completing the Program. This may include, but is not limited to, a summary evaluation of professional behaviors, board simulation/cumulative written exams, and clinical case simulations. Satisfactory completion of the summative evaluation is required for graduation. Failure to complete any portion of the summative evaluation will result in, at minimum, a remediation process with re-evaluation. If a student fails multiple attempts of the summative evaluation, the SAPP Committee may recommend dismissal from the Program. No student will graduate from the Program if he/she has been determined to have deficient knowledge and lacks the ability to safely treat patients.

PA PROGRAM CURRICULUM

The curriculum is based on an organ systems approach with a spiral of course material from basic and foundational to material of increased complexity and depth. It incorporates a problem-solving approach, stimulating analytical and critical thinking as well as effective analysis and utilization of resource materials. The curriculum has been designed by the faculty utilizing resources including the Accreditation Standards for Physician Assistant Education, the NCCPA Curriculum Blueprint, the Association of American Colleges (AACSB) Entrustable Professional Activities (EPAs), evolving health care trends, and the mission and philosophy of the Program and Institution.

The curriculum incorporates core competencies based on the ARC-PA Accreditation Standards. These include medical knowledge, interpersonal skill, clinical skills, technical skills, professional behavior, clinical reasoning, and problem-solving abilities. These attributes are important and necessary to practice as a Physician Assistant. Students will be assessed using the following methodologies:

Physician Assistant Studies

| Characteristic | Assessment |
|------------------------|--|
| Medical Knowledge | Written (electronic) examinations and quizzes |
| Clinical Skills | Small group activities |
| Technical Skills | Laboratory practicums Objective Structured Clinical Encounters (OSCEs) 3-D mannequin simulation Clinical procedure simulators Practical clinical experience |
| Interpersonal Skills | Small and large group discussion and activities |
| Professional Behaviors | Observation of each student's behaviors during classroom activities Simulated patient encounters Interactions with faculty, staff, and peers Adherence to the Institution's and Program's policies as outlined in the respective handbooks. |

The MSM PA Program consist of seven continuous semesters of graduate level training for a total of 103 semester credit hours. The curriculum meets the goals and missions of the PA Program, provides students with a generalist medical model, and stresses problem-solving, critical thinking, and the importance of patient-centered care and collaboration. Traditional classroom lectures are supplemented with interactive, case-based and problem-based learning experiences in small group sessions. Additional methodologies include patient simulation lab experiences, standardized patients, and mock medical procedure training.

The second year of the program includes 40 weeks of supervised clinical practice that expose learners to many different aspects of clinical medicine. These experiences provide opportunities for students to acquire the competencies needed for clinical PA practice. Each student is assigned to a clinical preceptor.

Physician Assistant Studies

| Semester | Didactic Curriculum | Credit Hours |
|--------------------------------|---|-------------------------------|
| Summer Semester (Jun – Aug) | PAS 610 Medical Gross Anatomy | 6 |
| | PAS 611 Scientific Foundations | 3 |
| | PAS 612 Medical Interviewing | 1 |
| | PAS 615 Introduction to Evidence Based Medicine | 2 |
| | PAS 616 Medicine & Society I | 2 |
| | | Total: 14 |
| Fall Semester (Aug-Dec) | PAS 624 Pharmacology & Therapeutics I | 2 |
| | PAS 626 Clinical Medicine I | 6 |
| | PAS 613 Physical Diagnosis | 3 |
| | PAS 629 Diagnostic Methods I | 2 |
| | PAS 620 Physiology | 3 |
| | PAS 617 Medicine & Society II | 1 |
| | Total: 17 | |
| Spring Semester (Jan-May) | PAS 625 Pharmacology & Therapeutics II | 2 |
| | PAS 627 Clinical Medicine II | 6 |
| | PAS 630 Diagnostic Methods II | 2 |
| | PAS 618 Medicine & Society III | 1 |
| | PAS 670 Clinical Integration Seminar | 4 |
| | | Total: 15 |
| Summer Semester (May-Jul) | PAS 631 Special Populations | 5 |
| | PAS 628 Clinical Medicine III | 3 |
| | PAS 619 Medicine & Society IV | 2 |
| | PAS 614 Behavioral Medicine & Counseling | 2 |
| | | Total: 12 |
| | | Preclinical Year Total |

Physician Assistant Studies

Clinical Year Curriculum

Supervised Clinical Practice Experiences (SCPE) in the following specialties: Internal Medicine, Family Medicine, Pediatrics, Women’s Health, Behavioral Medicine & Psychiatry, Emergency Medicine, General Surgery, and Elective

| | | |
|--|--|---------------------------|
| | PAS 740 Family Medicine Clerkship | 8 |
| | PAS 741 Internal Medicine Clerkship | 8 |
| | PAS 742 Pediatrics Clerkship | 4 |
| | PAS 743 Emergency Medicine Clerkship | 4 |
| | PAS 744 Behavioral Medicine & Psychiatry Clerkship | 4 |
| | PAS 745 General Surgery Clerkship | 4 |
| | PAS 746 Women’s Health Clerkship | 4 |
| | PAS 747 Elective Clerkship | 4 |
| | PAS 748 Professional Seminar I | 1 |
| | PAS 749 Professional Seminar II | 1 |
| | PAS 750 Professional Seminar III | 1 |
| | PAS 751 Capstone Project | 2 |
| | | Total: 45 |
| | | Program Total: 103 |

*The clinical clerkship sequence will be based on preceptor availability and will vary among PA students.

Pre-Clinical Course Descriptions

PAS 610 Medical Gross Anatomy 6 credit hours

This course is designed to develop an understanding of normal clinical anatomy through an integrated anatomical approach to the study of human body structure. Laboratory sessions will consist of videos and activities to build a foundation of understanding three-dimensional anatomy. These labs are complemented with lectures covering the systematic and developmental anatomy of the human body, with faculty utilizing medical case studies to teach anatomy within a clinical context. Throughout this course, instructional emphasis is placed on structure/function relationships and the clinical application of such knowledge. Students will have the opportunity to participate in independent and group study activities with the goal of enhancing life-long learning.

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PAS 611 Scientific Foundations 3 credit hours

The course will provide instruction in the basic sciences of medicine integral to understanding human disease. The course will cover topics in pathophysiology, biochemistry, immunology, microbiology, and genetics.

PAS 616 Medicine and Society I 2 credit hours

Medicine and Society (M&S) consists of 4 consecutive, integrated courses in which students explore the intersection of the individual in society and health care. The first semester will focus on an introduction to the PA profession, medical ethics, and cultural competency. The course will also consist of learning communities which will facilitate critical thinking and clinical problem solving.

PAS 624 & 625 Pharmacology & Therapeutics I & II 2 credit hours (ea)

This two-course series provides students with a fundamental knowledge of the application of pharmacologic agents to the maintenance of health, prevention of illness, and the treatment of common acute and chronic medical conditions or related symptoms. The course focuses on the deliverance of the fundamental principles of pharmacology needed for an understanding of rational and effective prescribing of various drug classes. The pharmacokinetics, pharmacodynamics, potential advantages and disadvantages of specific therapeutic regimens, indications, contraindications, adverse reactions, and the relative cost of commonly prescribed medications will be addressed.

PAS 620 Physiology 3 credit hours

This course offered early in the physician assistant program curriculum will review concepts of human physiology to strengthen the students' core foundation of physiology knowledge. Major themes regarding commonly occurring pathophysiologic processes will be introduced to prepare students for more in-depth learning about specific disease states and patient presentations in subsequent courses.

PAS 626 Clinical Medicine I 6 credit hours

This is the second of a three-part series designed to deliver a comprehensive study of human diseases and disorders by organ system. This semester will contain modules covering Pulmonology, Genitourinary/Nephrology, and Neurology. Disease processes common to primary care practices, and the development of differential diagnoses and treatment plans based on clinical presentation will be highlighted. Course content will be integrated with the content being taught in Pharmacology and Diagnostic Methods.

PAS 627 Clinical Medicine II 6 credit hours

This is the second of a three-part series designed to deliver a comprehensive study of human diseases and disorders by organ system. This semester will contain modules covering Pulmonology, Genitourinary/Nephrology, and Neurology. Disease processes common to primary care practices, and the development of differential diagnoses and treatment plans based on clinical presentation will be highlighted. Course content will be integrated with the content being taught in Pharmacology and Diagnostic Methods.

Physician Assistant Studies

PAS 628 Clinical Medicine III 3 credit hours

This is the third of a three-part series designed to deliver a comprehensive study of the etiology and pathophysiology of human diseases and disorders by organ system. This semester will contain modules covering Endocrinology and Infectious Disease. Disease processes common to primary care practices, and the development of differential diagnoses, and treatment plans based on clinical presentation will be highlighted. Course content will be integrated with the content being taught in Pharmacology and Diagnostic Methods.

PAS 613 Physical Diagnosis 3 credit hours

This course is designed to instruct the student in the competencies necessary for the performance of a physical examination, as well as the communication and medical documentation skills necessary for patient assessment. Learning objectives are met through reading assignments, small group encounters, practicum sessions, oral presentations and various methods of evaluation. Students will perform system-based and problem-focused physical examinations for both primary care and specialty complaints. In addition, students will have the opportunity to practice their skills with assigned lab partners, simulated patients and standardized patients.

PAS 612 Medical Interviewing 1 credit hour

This course covers the collection of subjective data by physician assistant students and is divided into two sections. The first half of the course will involve comprehensive understanding of the Chief Complaint (CC), History of the Present Illness (HPI), medical/social/surgical history, medications/allergies, health maintenance, and complete review of systems (ROS). It will also include an introduction to history taking and direct patient interactions. Additionally, this course introduces PA students to active listening, the concepts of health, disease and illness and common medical decision-making pitfalls. The ideas of cultural competency and the concept of social determinants of health will also be introduced. Participation in a clinical practicum wherein students will interview assigned lab partners will occur before section two of this course.

The second half of the course will focus on the fundamentals of medical interviewing patients across the lifespan with particular attention directed at developing agenda setting skills, managing a difficult patient, patients with substance abuse, communicating with diverse patient populations, interviewing pediatric and geriatric patients, managing possible abuse, delivering bad news and collecting information essential for assessing sexual health.

PAS 629 & 630 Diagnostic Methods I and II 2 credit hours (ea.)

The essentials of ordering, interpreting, and performing diagnostic studies used in the screening, diagnosis, management, and monitoring of common diseases. Topics for this course are sequenced with Clinical Medicine. Lectures, small group discussions, and hands-on laboratory sessions are the teaching strategies utilized in this course.

PAS 615 Introduction to Evidence-Based Medicine 2 credit hours

This course is designed to help develop critical thinking regarding interpretation of evidence-based practice and research literature. Medical knowledge is far from static, and the best clinicians of the coming decades will be those who can most effectively filter and integrate the latest scientific

Physician Assistant Studies

evidence to provide customized, safe, patient-centered care in every clinical encounter. In this course, we will integrate concepts of epidemiology, research study design, and biostatistics and apply them to interpretation of medical literature, with an ultimate goal of producing clinically relevant answers to patient care-related questions. The course will be a mix of interactive lectures, individual and small group exercises, and discussions. Student learners will be able to critique medical research at the completion of this course and begin the process of formulating a clinically relevant research question.

PAS 617 Medicine and Society II 1 credit hours

Medicine & Society is the second of a 4-semester sequence of consecutive, integrated courses in which students explore the intersection of the individual in society and health care. The Medicine & Society II course examines relevant historical issues, theories, approaches, and barriers, emphasizing critical analysis and application of knowledge.

The second semester the course will take a closer look at the concept of health equity in the United States. Students will gain a better understanding patient advocacy, public health systems, cultural competence, social deterrents of health, health promotion and disease prevention as it relates to community health outcomes and its impact on clinical practice. The course will also consist of learning communities wherein students will participate in a community health engagement project addressing an identified health promotion/disease prevention issue or an identified community health risk.

PAS 618 Medicine and Society III 1 credit hours

Medicine & Society III is the third of a 4-semester sequence of consecutive, integrated courses in which students explore the intersection of the individual in society and health care. Medicine & Society III introduces the foundations of public health with an emphasis on population health, how public health affects everyday lives, and influences clinical practice. This course presents a big-picture, population perspective on the determinants of health, disease, and the tools available to protect and promote health. This course also examines a range of options for intervention including the use of the healthcare system, the public health system, and society-wide systems such as policy and advocacy. Learning Communities serve as an opportunity for student-led small group discussions and group research projects led by a faculty facilitator. Learning Community will include activities and discussions focused on topics related to community health projects and Capstone activities which will facilitate research, critical thinking, and clinical problem-solving throughout the semester.

PAS 619 Medicine and Society IV 2 credit hours

Medicine & Society IV is the fourth of a 4-semester sequence of consecutive, integrated courses in which students explore the intersection of the individual in society and health care. The fourth semester will focus on the healthcare delivery system, public health, patient safety, quality improvement, billing, reimbursement and risk management. The course will also introduce students to interprofessional education. The course will continue to incorporate learning communities that will facilitate critical thinking and clinical problem-solving activities and discussions.

PAS 614 Behavioral Medicine & Counseling 2 credit hours

This course provides the student with an opportunity to develop an understanding of human behavior by providing an overview of major behavioral disease processes, and differentiation criteria to include disease

Physician Assistant Studies

presentation, physical examination findings, laboratory testing, and therapeutic approaches. Additionally, the student will survey common behavioral issues related to somatic disease processes that present to the primary care practitioner.

PAS 631 Special Populations 5 credit hours

This course is designed to deliver a comprehensive study of human diseases and disorders. Emphasis will be on the epidemiology, etiology, historical data, clinical manifestations, progression, therapeutic management, prevention, laboratory medicine, and prognosis of disease processes common in Women's Health, Pediatrics, Geriatrics and Emergency Medicine. The course will also provide instruction on basic surgical principles, techniques, and technical skills necessary for Physician Assistants to function in primary care and surgical settings. This course is taught in a modular format using a variety of learning methods including lectures, group discussions, demonstrations, and laboratory sessions.

PAS 670 Clinical Integration 4 credit hours

This course, delivered in a small group format, is designed to develop student skills related to integration of patient assessment and clinical medicine concepts from other courses in their curriculum. Using a patient-centered, problem-based learning method, students will actively explore pertinent aspects of patient care and practice through a case-based approach.

Clinical Course Descriptions

PAS 740 Family Medicine 8 credit hours

This required clinical clerkship takes place primarily in a community-based outpatient setting. The purpose of this Clerkship is to educate the physician assistant student in the diagnosis, management, and treatment of primary care patients across the life span, including prenatal, infant, children, adolescents, adults and elderly. Emphasis is placed on the primary care needs of patients in rural and urban communities.

PAS 741 Internal Medicine 8 credit hours

This clinical rotation focuses on the practice of internal medicine. Students will gain valuable hands-on exposure to a variety of acute and chronic adult diseases and will discover best practice methods for diagnoses and treatment of these issues.

PAS 742 Pediatric Medicine 4 credit hours

This clerkship will center on pediatric patients. Students will learn how to differentiate presentations in the pediatric population from those in an adult population.

PAS 743 Emergency Medicine 4 credit hours

During this fast-paced clerkship, students will experience a variety of clinical presentations common in emergency medicine. Students will learn methods for determining critical versus non-critical presentations and methods of patient stabilization. Students will evaluate and treat acute illnesses and injuries as well as exacerbations of chronic illness. Students will have the opportunity to apply procedural/ skill techniques learned throughout the course of the MSM PA program.

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PAS 745 General Surgery 4 credit hours

This rotation introduces students to practical concepts and principles of surgery, including pre-operative, intra-operative, and post-operative evaluation and management of the surgical patient.

PAS 746 Women's Health 4 credit hours

This clinical rotation exposes the students to the practice of women's health. Students will learn how to evaluate and treat a variety of gynecologic and obstetrical conditions as well as other issues specific to women's health.

PAS 747 Elective Clerkship 4 credit hours

This elective clinical rotation provides the student with an opportunity to pursue an academic, medical, or surgical area of interest.

PAS 748 Professional Seminar I in Physician Assistant Studies 1 credit hour

Professional Seminar I is the first in a series of three consecutive integrated seminar style courses intended to assist the PA student in achieving the competencies needed to be successful in the supervised clinical practice experiences (clinical rotations) and to successfully transition to clinical practice upon graduation.

PAS 749 Professional Seminar II in Physician Assistant Studies 1 credit hour

Professional Seminar II is the second in a series of three consecutive integrated seminar style courses intended to assist the PA student in achieving the competencies needed to be successful in the supervised clinical practice experiences (clinical rotations) and to successfully transition to clinical practice upon graduation.

PAS 750 Professional Seminar III in Physician Assistant Studies 1 credit hour

Professional Seminar III is the third in a series of three consecutive integrated seminar style courses intended to assist the PA student in achieving the competencies needed to be successful in the supervised clinical practice experiences (clinical rotations) and to successfully transition to clinical practice upon graduation.

PAS 751 Capstone Project 2 credit hours

This course is designed to allow PA students to complete a Capstone Project under the guidance of a faculty advisor. Students will put into practice the skills acquired in PAS 615: Introduction to Evidence Based Medicine and PAS 618: Medicine & Society III by conducting a systematic literature review and writing a thesis paper describing their findings. Student learners will meet regularly with their Capstone advisor to discuss preliminary drafts of their scholarly work and associated assignments. Students will also submit their work for presentation as a poster at the 32nd Annual Curtis L. Parker Student Research Symposium.

Physician Assistant Studies

GRADING SYSTEM

The Program uses the following grading scale to determine letter grades for each course.

| PERCENT GRADE | LETTER GRADE | INTERPRETATION |
|---------------|--------------|----------------------|
| 90 – 100 % | A | Superior |
| 80 – 89 % | B | Satisfactory |
| 70 – 79 % | C | Acceptable |
| <69% | D/F | Unacceptable/Failure |

STUDENT SUPPORT SERVICES

MSM PA students may receive academic support in the form of guidance in study methods and further explanation of course content from faculty members and Course Directors. Students may self-refer or be referred by faculty members to the Office of Counseling Services or the Office of Student Learning and Educational Resources (OSLER) for further services including study skills, test-taking strategies, and counseling. Additionally, the Office of Disability Services (ODS) is available to support all MSM PA students with accommodations requests and needs to ensure an equitable and inclusive environment.

For Additional information regarding Institution student support services, see MSM Student Handbook https://www.msm.edu/Current_Students/StudentHandbooks.php

For OSLER use the following link <http://www.msm.edu/Education/OSLER/index.php>

Morehouse School Of Medicine



DISTANCE EDUCATION



DISTANCE EDUCATION

Distance Education

Morehouse School of Medicine

These policies and procedures are designed to ensure Morehouse School of Medicine (MSM) compliance with Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) concerning the definition of distance vs. correspondence education, verification of student identity in distance education, and student privacy protection in distance education.

Definition of Distance Education:

Morehouse School of Medicine uses the Southern Association of Colleges and Schools Commission on Colleges-Reformatted (August 2018) definition of distance education. That is, “Distance education is a formal educational process in which the majority of the instruction (interaction between students and instructors and among students) in a course occurs when students and instructors are not in the same place. Instruction may be synchronous or asynchronous. A distance education course may use the internet; one-way and two-way transmissions through open broadcast, closed circuit, cable, microwave, broadband lines, fiber optics, satellite, or wireless communications devices; audio conferencing; or video cassettes, DVD’s, and CD-ROMs if used as part of the distance learning course or program.”

Based on the definition of technology-enhanced course offerings – Full (95% or more online), Partial (more than 50% online) and Hybrid (30% - 50% online), Morehouse School of Medicine currently offers two Full online degree program. Courses scheduled as Full are required to maintain weekly interactions between students and instructors.

Policy for Verification of Student Identification in Distance Education

Distance education courses and programs are delivered using Canvas, the institution’s web-based learning management system, which is maintained by the Office of Digital Learning. Students enrollments are pulled into Canvas from Banner, the student information system. Students in both programs have a face-to-face component either through orientation or self-apprenticeship rotations where identification is necessary. Although not required, students that do not initially have to come to campus are strongly encouraged to obtain a Morehouse School of Medicine badge which verifies their identity. MSM has a centralized system to avoid multiple logins, however, passwords are prompted to be changed on a regular basis in order to maintain the security of user accounts as well as sensitive data.

Morehouse School of Medicine must comply with the provisions of the United States Federal Higher Education Opportunity Act (HEOA), Public Law 100-315 concerning the verification of student identity in distance learning. All courses and programs offered through distance education must verify that the student who registers for a course or program is the same student who participates in, completes the course or program, and receives academic credit. Students and faculty gain access to this password protected site using their unique institution’s network credentials.

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As such, all students enrolled into the distance education programs and courses are subject to the protection and limits set for users on the institution's network server. One or more of the following methods must be used for verification purposes:

1. An individual secure login and password (MSM username and password). All students at MSM are given a unique username and password. While usernames are usually based on emails, students are not given their initial password until their identity is verified. A MSM username and password is required in order to gain access to course materials on Canvas, the learning management system. This authentication method is also the only means of gaining access to courses/content delivered synchronously through web-conferencing systems.
2. Users of the LMS are responsible for protecting the security of their usernames, passwords, and any other assigned access credentials. This information may not be shared or given to anyone other than the user to whom they were assigned. It should also not be written down or stored in any way that could be discoverable by an unauthorized user.
3. Pedagogical and related practices that are effective in verifying student identity (video chat, review sessions, etc.) Faculty members who teach online also have a responsibility to identify and report changes in students. These could include sudden changes in academic performance, change in writing style, using multiple assessment types, conflicting statements made by students in discussions or on email, etc. Student Privacy Protection Regardless of the method used, student identity verification must protect the privacy of student information.

Students must be notified at the time of registration or enrollment of any fees associated with the verification of their identity. All system users are responsible for following the network security policy Passwords must be changed every 120 days (via system generated message) in order to maintain security. The Business Office is responsible for ensuring any associated fees are updated and communicated properly.

The Digital Learning Team have the primary responsibility of making sure that online courses comply with the policies regarding verification and protection of identity. Academic Affairs is responsible for university-wide compliance and informing department chairs of any changes.

FERPA and Distance Education

All credited courses and programs offered through distance education must assure compliance with the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99). As such, Morehouse School of Medicine employee must not permit access to or release of any confidential student information to any third parties without written consent of the student other than the following:

- School officials with legitimate educational interest
- Other schools to which a student is transferring

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- Specified officials for audit or evaluation purposes
- Appropriate parties in connection with financial aid to a student
- Organizations conducting certain studies for or on behalf of the school
- Accrediting organizations
- To comply with a judicial order or lawfully issued subpoena
- Appropriate officials in cases of health and safety emergencies
- Appropriate external parties, such as law enforcement agencies, in order to Investigate and respond to suspected violations of law or University policy.

Any such disclosures shall comply with all applicable laws. Further, electronic student submissions should not be accessible to anyone other than the student and the University employee who needs the electronic submission to carry out his/her duties. These individuals would usually include the instructor, administrators or staff approved by the University, and e-learning administrators. For student work to become available to a third party, the student must give permission. This consent is voluntary, and a student may decline. If a student declines to give consent, the student cannot be denied any academic opportunity or privilege or suffer any adverse consequences as a result.

Written consent to display a student's identity is not necessary for electronic discussion or forum postings if:

- The students perform the posting
- Electronic submissions do not contain grading or evaluative comments of a professor.
- Students are notified in advance via the syllabus that the posting of their work is a course requirement. (Discussion boards)
- Submitted work is not available to anyone other than other class members and University approved officials.
- Users of the LMS must adhere to [MSM's Information Security policy](#).

Instructional Sites Outside of the MSM Canvas

If students are required or requested to post to websites or social networking sites outside of MSM, FERPA protections as to third parties cannot be assured. As a result, instructors should inform students of the issues, conditions, and associated risks at the beginning of the term using the course syllabus. Instructors should never post student grades, ID numbers or any other personally identifiable information on a third-party site. Students should also be warned against posting personal information about themselves or their

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Plagiarism Detection Software

Faculty may use or require the use of plagiarism detection software as part of their course. Morehouse School of Medicine currently uses Turnitin.com that is an extension added through Canvas. All work, whether written or orally submitted, presented by students at MSM as part of course assignments or requirements must be the original work of the student unless otherwise expressly permitted by the instructor. Any use of the specific thoughts, ideas, writing or phrases of another person must be accompanied in such instance by use of some form of attribution to the source. Presenting the ideas of others as one's own is plagiarism, which is no different from cheating. This behavior will not be tolerated and may lead to administrative termination.

In addition, Delivery and access to copyright materials in the LMS must adhere to guidelines set forth in the [University's Educational Use of Copyrighted Works Policy](#). They also should comply with the Copyright Law (Title 17 of the United States Code <https://www.copyright.gov/title17/>).

Current MSM program

MSM has the online Master of Science in Biotechnology that is detailed in the Graduate Education in Biomedical Sciences (GEBS) section and the hybrid executive MPH that is detailed in the Graduate Education in Public Health (GEPH) section.

Morehouse School Of Medicine

GENERAL INFORMATION/POLICIES

General Information For Students

Financial Information

MSM policies for all degree program students are detailed in the Student Handbook which is available on the web site at <https://www.msm.edu/>. Some general information is summarized below

Tuition and Fees

Tuition and fees for each academic year are set in March of the preceding year by the Board of Trustees. Amounts are published in the Student Handbook, are posted online, and are available from the Office of Admissions and Student Affairs. MSM reserves the right to change the fees and tuition at any time without notice. However, if a change is made, it will not become effective until the next academic year.

Registration and Payment of Tuition, Fees and Other Financial Obligations

Tuition and fees may be paid in two installments. The first installment is due on the day of registration. The final installment is due in January or on the date listed on the promissory note. Registration dates are specified in the calendar published in the student handbook. Failure of the student to register on or before the date specified in the published calendar will result in a late registration fee of \$50.00 which will be added to the amount due. A student will not be allowed to register until tuition and fees are paid or satisfactory arrangements are made to cover all expenses. A student who has not satisfied all past due financial obligations to MSM will not be allowed to register until all accounts are settled. No transcripts will be released for any student or former student, nor will any degree be awarded to any student who has a financial obligation to the school.

Tuition payments and account payments carry a service charge if a check is returned for insufficient funds, or if payment is stopped on the check. Any returned check must be cleared within seven (7) days. Registration will be withdrawn if a student fails to satisfy all financial obligations to the school.

Refund Policy

If a student leaves the medical school for any reason (dismissal, withdrawal, transfer) tuition is refundable according to the following decreasing percentage scale:

General Information For Students

| Period After Registration | Tuition Refunded |
|----------------------------------|-------------------------|
| First 5 Class Days | 100% |
| Second 5 Class Days (2 weeks) | 80% |
| Third 5 Class Days (3 weeks) | 60% |
| Fourth 5 Class Days (4 weeks) | 40% |
| Fifth 5 Class Days (5 weeks) | 20% |
| After the Fifth Week | 0 |

Should a medical student need to decelerate in the curriculum such that the anticipated graduation date is changed, the tuition and fee charges will be pro-rated accordingly.

Financial Assistance

The ability to finance your education at MSM does not influence the admissions process. However, if the student cannot make satisfactory arrangements to pay tuition and fees and to provide living expenses, the registration process cannot be completed. Students who have documented financial need that cannot be met by family and personal resources may apply for scholarships, loans, and grants. The Office of Student Fiscal Affairs is prepared to assist applicants and students in preparing applications for financial aid.

Accepted and alternate list students will receive the link to the online institutional Loan/Scholarship Application, a Needs Analysis Form (Free Application for Federal Student Aid, FAFSA), and other necessary financial aid information and instructions. An official, signed copy of the parent's and applicant's current U.S. individual income tax return is required for students who wish to be considered for institutional financial aid (i.e., grants, scholarships, low interest loans). Complete parent information must also be provided on the FAFSA. All information is held in strict confidence. The policies of the institution in regard to financial aid are contained in the Financial Aid Prospectus, which is available on the MSM website.

Many donors have generously provided grants, scholarships and other forms of financial aid for MSM students who qualify for such assistance. These funds are considered institutional financial aid and are awarded based on financial need (according to the Needs Analysis Form) to students who meet the financial aid deadline and provide complete parent income information. Students who wish to apply for private loan funds (alternative loans) will be subject to a credit check by the lender (bank).

General Information For Students

General Policies

Academic Records

Official academic records are maintained by the Registrar. Access to these records is governed by the Family Educational Rights and Privacy Act of 1974, as amended. A listing of all students' records maintained by the institution is contained in the Student Handbook, which is available from the Office of Admissions and Student Affairs and is posted on the web.

Library

The M. Delmar Edwards Library supports excellence in teaching, learning, research, service and practice by acquiring, developing, managing and delivering information resources to Library users. It is physically located on the first floor of the Medical Education Building (MEB), provides information and learning resources for students, residents, faculty, staff, researchers, and the community. The Library has areas for group and individual study. In addition to online, full-text books and journals, along with open stacks of books and journals, the Library houses an archive, audio-visual collection, and an e-lab. Online library resources of journals and books are available 24/7. Librarians are available to assist in training users to effectively use Library resources to answer reference queries, to perform searches for information and to acquire information through inter-library loan. The Library is a resource member of the National Networks of Libraries of Medicine Southeastern Atlantic Region (NNLM/SEA), the Consortium of Biomedical Libraries in the South (CONBLS), the Southern Chapter of the Medical Library Association (SCMLA), the Georgia Health Sciences Library Association (GHSLA), the Atlanta Health Sciences Library Consortium (AHSLC) and the Atlanta Regional Council for Higher Education (ARCHE).

Community Service

Central to the mission of MSM is the expectation that graduates will provide service to disadvantaged communities. In addition to emphasizing this point in our pedagogy, MSM students participate in a series of community service projects prior to their graduation. The program also provides an opportunity for undergraduate students who are interested in pursuing careers in medicine and the biomedical sciences to develop mentoring relationships with medical students from MSM. Students in all programs have opportunities to engage in community service within coursework as well as in volunteer groups.

General Information For Students

Honors in Community Health and Service selects students in high academic standing for the program based on an interest in community service, faculty recommendations and academic performance. Students perform a specified number of community service hours each year, identify a service project relating to their professional interest, and develop personal and community learning objectives. Working with a faculty advisor and a community site, students develop, implement and later present their scholarly project before faculty and peers. Students are recognized on class day and receive honors at graduation.

“Morehouse School of Medicine is committed to providing academic and employment environments that are free from unlawful discrimination, including harassment, on the basis of protected characteristics, including race, color, national or ethnic origin, sex, age, disability, religion, veteran status, sexual orientation, genetic information, gender identity, or any other characteristic protected by applicable law in the administration of the School’s programs and activities. As such, MSM admits or hires qualified persons of any race, color, national or ethnic origin, sex, age, disability, religion, sexual orientation, and gender identity to all the rights, privileges, programs, and activities generally accorded or made available at the School. MSM also prohibits retaliation against members of the MSM community raising concerns about discrimination and harassment”

Disability Antidiscrimination Policy for Programs and Services

It is the policy of Morehouse School of Medicine to ensure that all institutional goods, services, facilities, privileges, advantages, and accommodations are meaningfully accessible to qualified persons with disabilities in accordance with the Americans with Disabilities Act (ADA) of 1990, Section 504 of the Rehabilitation Act of 1973, and other pertinent federal, state, and local disability anti-discrimination laws. Students should contact the Office of Disability Services (ODS) (ods@msm.edu). Details are in the student handbook.

Student Health and Wellness Center

Empower. Believe. Become.

Mission Statement

The Student Health and Wellness Center (SHWC) provides quality health care services to students of the Atlanta University Consortium Center. We are privileged to provide a variety of health and wellness-related services for our students, emphasizing a holistic approach to encourage growth physically, mentally, emotionally, academically, and socially. SHWC’s goal is to inspire students to *empower* themselves by being proactive in their health and wellbeing, to encourage students to *believe* in their capabilities academically and personally and to support them as they *become* all that they desire to be.

General Information For Students

Contact:

Student Health and Wellness Center (SHWC)

455 Lee Street SW
Third Floor, Ste. 300A
Atlanta, GA 30310
Tel: (404) 756-1241
Fax: (404) 756-1237
Email: shwcrequests@msm.edu

Counseling Services

The Counseling Services staff is available to offer assistance with a variety of personal and academic problems. The Counseling Services Center offers a variety of services designed to help students maximize their potential while at MSM. All students are encouraged to talk over any issue or concern with a staff member. Personal as well as academic counseling is available. Counseling sessions are confidential. Services are available free of charge to all matriculating students, their families, and significant others. Additional information on Counseling Services is contained in the student handbook, which is online and available from the Office of Student Affairs.

Housing

MSM has collaborated with ENTRA West end for outstanding market-rate suites and apartments adjacent to campus. More information can be obtained from the web site <https://entrawestend.com/?rcstdid=Mg==YRjTEizZPgM=>

Student Government Association

Students are represented at MSM through class officers, student organization representatives and student members of committees. Selection of these representatives is done through class elections run entirely by the program and/or class involved.

The Student Government Association is the general student representative body. The Constitution for the Student Government Association has been established so that students may govern themselves more effectively and take a more active part in affairs of the School. The opinions of medical students on curricular and professional matters are actively sought by the faculty. Students serve on several school committees.

General Information For Students

Student Organizations

Chapters of the following student organizations are active at MSM:

- Aequitas Visual Arts and Literacy Journal
- American Association of Neurological Surgeons Morehouse School of Medicine Chapter*
- American Sign Language and Deaf Culture Interest Group
- Anesthesiology Interest Group
- Asian Pacific American Medical Student Association
- Black Men in White Coats
- Bioethics Club*
- Cardiology Interest Group
- Cardiothoracic & Vascular Surgery Interest Group Christian Medical Dental Association
- Dermatology Interest Group
- Emergency Medicine Interest Group
- ENT Interest Group*
- Family Medicine Interest Group
- Gastroenterology Interest Group*
- Health Equity for All Lives (H.E.A.L) Clinic
- Integrative Health & Medicine Interest Group*
- Internal Medicine-Pediatrics Interest Group*
- Interventional Radiology Interest Group
- James Densler Surgical Society
- Latino Medical Student Association
- Medical Students for Africa
- Medical Students for Choice
- MSM Internal Medicine
- MSM Ophthalmology Interest Group
- MSM Student National Medical Association
- OB/GYN Interest Group
- Oncology Interest Group
- Orthopedic Surgery Interest Group
- Pediatrics Interest Group
- Plastic Surgery Interest Group
- Psychiatric Interest Group*
- Radiology Interest Group
- Students for a National Health Program

General Information For Students

Awards

Each year just prior to Commencement, Class Day is held in order to recognize the accomplishments of graduating seniors, faculty, and staff. Superior academic performance by students who have excelled in all academic programs are recognized. These awards include (but are not limited to) the following:

- The President's Leadership Award is presented to a graduating senior who has demonstrated outstanding accomplishments in leadership and performance.
- The Primary Care Award is presented to the graduating student who most clearly exemplifies the mission of the School.
- Teacher of the Year Awards are presented to faculty based on elections held by second-year students (first- and second-year faculty) and fourth-year students (third- and fourth-year faculty).
- Rising Star Award is presented to a first-year PhD student who has demonstrated outstanding academic accomplishments.
- The PhD Student of the Year award is presented to a fourth-year student who has demonstrated excellence in accomplishments and performance.
- Department awards are given to students on the basis of outstanding academic performance in specific disciplines.
- Awards sponsored by private industry are given to recognize community service, leadership, excellence in basic science and excellence in clinical medicine.

Alumni Association

An active national alumni association has been formed to provide a means for the alumni to communicate with one another and to support the institution. Graduates and students who have completed up to two years are eligible for membership.

Summer Experiences for MD Students

Medical students are strongly encouraged to augment their curriculum with summer and academic year experiences in clinics (with approved preceptors), in basic science and clinical research with faculty, and at government agencies. Many have modest stipends to support living expenses. These experiences include, but are not limited to clinical and research experience and collaborative programs with many partners.

The Office of Student Affairs will assist students in identifying programs.

Morehouse School of Medicine



GRADUATE MEDICAL EDUCATION



Residency and Fellowship Educational Programs

OFFICE OF GRADUATE MEDICAL EDUCATION

<http://www.msm.edu/Education/GME/index.php>

Office Phone Number: (404) 756-1324

Chinedu Ivonye, MD, FACP

Professor of Medicine

Associate Dean for Graduate Medical Education

ACGME Designated Institutional Official

| | |
|---------------------------------|----------------------|
| Assistant Dean: | Dr. Riba Kelsey |
| Assistant Dean GME & UME: | Tammy Samuels |
| Associate Director: | Tiffany Burns |
| Institutional Program Manager: | Sherly Boisrond |
| Database Management Specialist: | Felicia Underwood |
| Administrative Coordinator: | Shanelle Camp- Redic |

RESIDENCY

Graduate Medical Education

The Graduate Medical Education (GME) Office of Morehouse School of Medicine (MSM) was established in 1988. Under the current leadership of Dr. Chinedu Ivonye, Associate Dean for Graduate Medical Education, and Designated Institutional Official (DIO) for the Accreditation Council for Graduate Medical Education (ACGME), the GME Office provides support for and oversight of seven residency and three fellowship programs to ensure compliance in adhering to ACGME accreditation and training requirements.

GME is responsible for the educational environment of its trainees and for implementing policies of the Graduate Medical Education Committee (GMEC). The GMEC, an ACGME -required entity, monitors, advises, and assists the Institution in maintaining a high-quality learning and work environment for trainees while contributing to the success of Morehouse School of Medicine in fulfilling its vision and mission.

Residency and Fellowship Educational Programs

Residents and Fellows

The Accreditation Council for Graduate Medical Education (ACGME) accredits all residency and fellowship education programs in the United States. The council and institutions participating in graduate medical education follow certain principles.

Accreditation standards emphasize the importance of the education setting residents are placed in. As the sponsor of residency programs, MSM follows the Institutional, common, specialty, and subspecialty Requirements of the Accreditation Council for Graduate Medical Education (ACGME).

The responsibility for monitoring residency education at MSM belongs to the Graduate Medical Education Committee (GMEC). Each residency and fellowship program, under the leadership of the program director, follows the standards within the ACGME program requirements for its specialty.

Resident Eligibility and Selection

MSM residency and fellowship programs participate in the National Resident Matching Program (NRMP). These residency and fellowship programs and their positions are listed in the AMA Graduate Medical Education Directory and the Fellowship and Residency Electronic Interactive Database Access System (FREIDA). MSM residency programs use the Electronic Residency Application Service (ERAS) to process applications to their programs. All organizations addressed in this section are web-based and have excellent information on their programs and services on the internet. They may be accessed through the MSM Residency Education Page on the MSM website. <http://www.msm.edu/Education/GME/index.php>

The Resident and MSM Educational Environment

Morehouse School of Medicine offers a full educational milieu designed to prepare the resident for future independent practice, responsibilities and opportunities. The medical school mission is incorporated into the curriculum of each residency and fellowship programs. MSM residency programs objectively prepare residents and fellows for the community environment in which they will practice. Further, our residents are expected to become leaders in this environment during and after the completion of the program.

Residency and Fellowship Educational Programs

We are proud of the fact that results transcend rhetoric in our placement of physicians in underserved areas. Sixty-three percent of our residency program graduates have pursued primary care practice and sixty-seven percent remain in the state of Georgia. There is also an increase in the number of resident graduates who have shown an interest in teaching medical students and residents.

Major objectives of the MSM residency and fellowship programs are to provide quality education, patient care, and scholarly activities. It is strongly emphasized that residents be progressively responsible for the supervision and teaching of medical students and other residents on the services to which they are assigned. Medical students are expected to become a productive member of a team or educational group.

Residents are responsible for following the quality assurance guidelines at all assigned facilities. Scholarly activities and the opportunities to investigate are made available to residents in clinical, community, and basic science settings.

Residency and Fellowship Educational Programs

Residency Education Programs

MSM is committed to its history and tradition of leadership in patient centered teaching and service to the underserved. MSM has educational affiliates in and around the Atlanta metropolitan area that provide ample hands-on learning experiences with the teaching support an award-winning faculty. Our main Affiliate training sites include Grady Memorial Hospital, Atlanta VA Medical Center and Children’s Healthcare of Atlanta.

| Residency Program | Authorized Residents | PGY 1- Resident Positions |
|---|----------------------|--|
| Family Practice (1981) (404) 756-1256 | 18 | 6 categorical |
| Internal Medicine (1992) (404) 756-1325 | 80 | 22 categorical 4-preliminary |
| Obstetrics and Gynecology (1997) (404) 616-1692 | 16 | 4 categorical |
| Pediatrics (2001) (404) 756-1393 | 18 | 6 categorical |
| General Psychiatry (1991) (404) 756-1440 | 16 | 4 categorical |
| Public Health and General Preventive Medicine (1986) (404) 752-1852 | 8 | N/A: PGY 2 level– and licensure is a pre-requisite for entry |
| General Surgery (1993) (404) 616-1424 | 21 | 3 categorical 6-8 preliminary |
| TOTALS | 177 | |

Residency and Fellowship Educational Programs

FELLOWSHIPS

| | | |
|--|----------|-----------------------------|
| Cardiology (Medicine) | 6 | 2 per year (3 years) |
| Child and Adolescent Psychiatry | 4 | 2 per year |
| Pulmonary (Medicine) | 6 | approved |

Office of Extended Professional Education

OFFICE OF EXTENDED PROFESSIONAL EDUCATION

Director of EPE Accreditation:

Denise N. McGee

Overview

MSM is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The Committee on Continuing Medical Education (CME), established by the Academic Policy Council of MSM, provides a program that supports healthcare professional's commitment to lifelong learning and practice improvement.

The Office of Extended Professional Education (OEPE) was established for the purpose of collaborating with faculty, clinical departments, community physicians and educators to identify educational needs and then implement activities to address these needs.

Continuing Education offerings are delivered using traditional formats (seminars, short courses, workshops and Internet) locally, nationally and internationally. Regularly Scheduled Series (RSS), which include grand rounds, also are sponsored by MSM clinical departments. The primary target audience includes MSM clinical faculty, community and other physicians, residents, nurses, allied health professionals and medical students. In addition, the EPE Office collaborates with other institutions that are not accredited as CME providers.

The Office of Extended Professional Education offers a hands-on approach to program development and education for both accredited and non-accredited activities, as well as total meeting management services.

For program and additional information please contact the Office of Extended Professional Education at (404) 752-1106 or email the office at cmemail@msm.edu.

Morehouse School of Medicine

OFFICE OF FACULTY AFFAIRS AND DEVELOPMENT

Office Phone Number: (404) 752-1604

Faculty Coordinator:

Renée Dunbar-Scott

Overview

The Office of Faculty Affairs and Development (OFAD) is a service-oriented unit and its primary goal is to provide comprehensive resource support for faculty, with respect to their professional careers at MSM. The office seeks to ensure fair and consistent treatment of faculty, and to assist academic departments in recruitment, orientation, professional development, promotion and retention of faculty and scholars. This office also provides oversight, advice and assistance for the processing of all faculty personnel matters, including the establishment, integration and implementation of personnel policies and procedures.

Morehouse School of Medicine

SATCHER LEADERSHIP INSTITUTE (SHLI)

Office Phone Number: (404) 752-8654

Director: Daniel E. Dawes, JD

Founding Director and Senior Advisor: David Satcher, MD, PhD

The Satcher Health Leadership Institute (SHLI) aims to be the leading transformational force for health equity in policy, leadership development, and research. Rooted in the legacy of our founder, the 16th U.S. Surgeon General, Dr. David Satcher, SHLI's mission is to create systemic change at the intersection of policy and equity by focusing on three priority areas: the political determinants of health, health system transformation, and mental and behavioral health. In conjunction with key strategic partners, SHLI enhances leadership among diverse learners, conducts forward-thinking research on the drivers of health inequities, and advances evidence-based policies; all in an effort to contribute to the achievement of health equity for all population groups.

MISSION

Our **mission** is to create systemic change at the intersection of policy and equity.

VISION

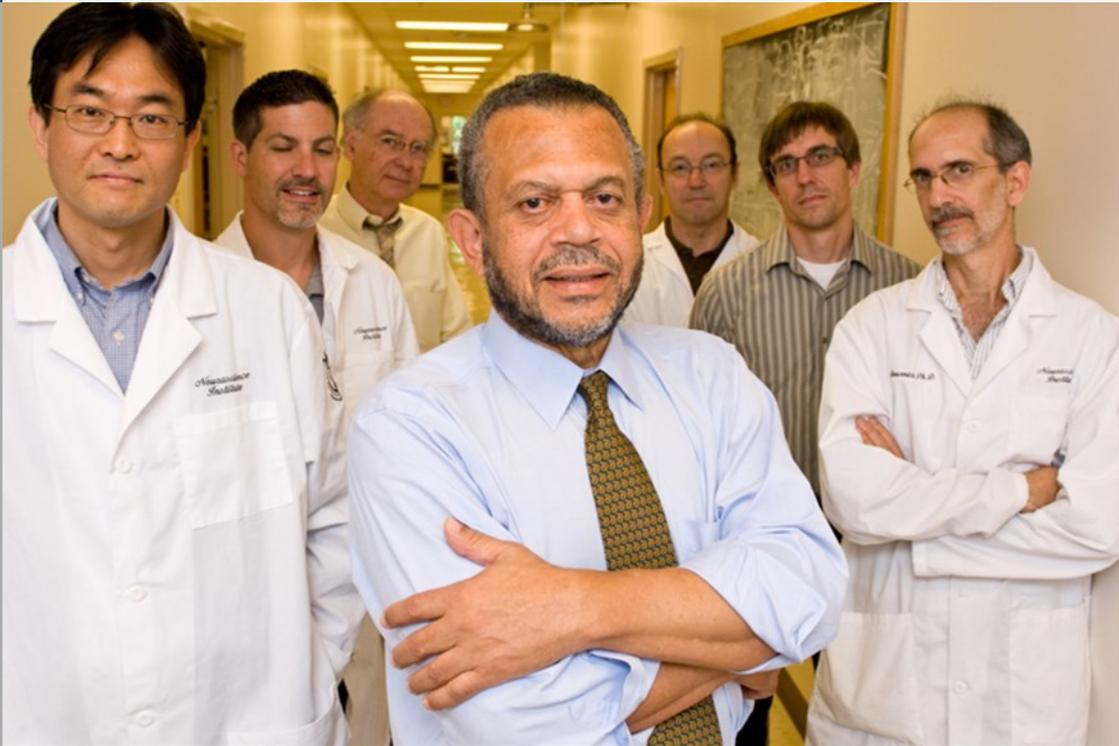
Our **vision** is to be the leading transformative force for health equity.

Our History

The Satcher Health Leadership Institute (SHLI) aims to be the leading transformational force for health equity in policy, leadership development, and research. Rooted in the legacy of our founder, the 16th U.S. Surgeon General, Dr. David Satcher, SHLI's mission is to create systemic change at the intersection of policy and equity by focusing on three priority areas: the political determinants of health, health system transformation, and mental and behavioral health. In conjunction with key strategic partners, SHLI enhances leadership among diverse learners, conducts forward-thinking research on the drivers of health inequities, and advances evidence-based policies; all in an effort to contribute to the achievement of health equity for all population groups.

Our priorities include mental and behavioral health, health systems transformation, and the political determinants of health.

Morehouse School of Medicine



FACULTY



Morehouse School of Medicine

Ganiat Adeogun Assistant Professor
Medicine 2019, MD Gulf Medical College 2008.

Felix O. Aikhionbare Professor
Medicine 1997, MSc Jackson State University 1989, PhD University of Nebraska-Lincoln 1995.

Taiwo Ajose Instructor
Medicine 2020, Windsor University School of Medicine 2015.

Ernest Alema-Mensah Associate Professor
Community Health and Preventive Medicine 2001, MS Clark Atlanta University 1991.

Jacquelyn Ali Instructor
Medical Education 2020, MSA Central Michigan University 2006.

Ijeoma Amobi Instructor
Family Medicine 2021, DMSc University of Lynchburg 2019.

Ngozi F. Anachebe Associate Professor
Obstetrics and Gynecology 2002, MD Morehouse School of Medicine 1998.

David W. Anderson Associate Professor
Medicine 1992, MD State University of New York Health Science Center 1988.

Francine Anderson Adjunct Professor
Medical Education 2019, PhD Texas Women's University 1999.

Dorothea E. Archie-Booker Associate Professor
Community Health and Preventive Medicine 1999, EdD University of Georgia 1996, MS Georgia State University 1985.

Donny Ard Assistant Professor
Family Medicine 2021, PhD Walden University 2019.

Nicole Ash-Mapp Assistant Professor
Family Medicine 2016, MD Morehouse School of Medicine 1994.

Morehouse School of Medicine

- Chermeia J. Austin** Instructor
Pediatrics 2020, DOM Alabama College of Osteopathic Medicine 2017.
- Patricia Ayoung-Chee** Associate Professor
Surgery 2020, MD New York University School of Medicine 2006.
- Kenkichi Baba** Assistant Professor
Pharmacology and Toxicology 2012, PhD Hokkaido University 2008.
- Dolapo Babalola** Associate Professor
Family Medicine 2007, MBBS University of Guyana School of Medicine 2000.
- Kameswarn Badri** Assistant Professor
Pharmacology 2016, PhD Sri Venkateswara University, Tirupati 1993.
- Nicolas Bakinde** Associate Professor
Medicine 2013, MD University of Leipzig 1994.
- Peter T. Baltrus** Associate Professor
Community Health and Preventive Medicine 2003, PhD University of Michigan 2003.
- Stephanie Banks** Instructor
Medical Education 2019, MD University of Southern Mississippi 2008.
- Khalid Bashir** Professor
Medicine 2005, MBBS Government Medical College 1992.
- Gilberte Bastien** Assistant Professor
Psychiatry & Behavioral Sciences 2018, PhD The University of Mississippi 2013.
- Carey Roth Bayer** Professor
Community Health 2007, EdD Widener University 2005, MEd Widener University 2003.
- Mohamed A. Bayorh** Professor
Pharmacology and Toxicology 1984, PhD Howard University 1980.
- Denise Bell-Carter** Assistant Professor
Family Medicine 1999, MD University of Medicine and Dentistry 1989.
- Melonie Bell-Hill** Assistant Professor
Psychiatry and Behavioral Sciences 2017, PhD The University of Georgia 2002.

Morehouse School of Medicine

- Morris Benveniste** Professor
Neurobiology 2005, PhD Weizmann Institute of Science 1988.
- Roger Berkow** Professor
Pediatrics 2020, MD Loyola University, Stritch School of Medicine 1976.
- Farzhana M. Bharmal** Professor
Psychiatry and Behavioral Sciences 1995, MBBS Liaquat Medical College 1982.
- Kapil Bhatia** Instructor
Medicine 2020, MD Jefferson University, Sidney Kimmel Medical College 2017.
- Ebony Blackmon** Adjunct Instructor
Family Medicine 2019, MSPAS University of Kentucky College of Health Sciences 2013.
- Victor Blake** Professor
Medicine 1995, MD Mount Sinai School of Medicine 1984.
- Latasha Bogues** Assistant Professor
Pediatrics 2016, MD University of Connecticut Health Center 2008.
- Vincent C. Bond** Professor
Microbiology, Biochemistry and Immunology 1990, PhD Pennsylvania State University 1982, MS Pennsylvania State University 1979.
- Cinnamon Bradley** Associate Professor
Medicine 2007, MD University of Illinois College of Medicine 1998.
- Chantale Branson** Assistant Professor
Medicine 2018, MD Boston School of Medicine 2012.
- Frederick O. Bright** Associate Professor
Obstetrics and Gynecology 1995, MD Howard University 1991.
- Chevon Brooks** Assistant Professor
Pediatrics 2009, MD Howard University 2004.
- Erika Brown** Professor
Pathology and Anatomy 2013, PhD University of Alabama at Birmingham 2003.
- Sheena Brown** Associate Professor
Family Medicine 2021, PhD Emory University 2011.
- Caroline Butler** Assistant Professor
Surgery 2019, MD University of Maryland Baltimore 2009.

Morehouse School of Medicine

Xuan Cao Adjunct Instructor
Obstetrics and Gynecology 2017, MD Sun Ya-Sen University School of Medicine 2005.

Lee Caplan Professor
Community Health and Preventive Medicine 2001, MD Albert Einstein College of Medicine 1985, PhD Johns Hopkins 1992.

Kimberly Carroll Assistant Professor
Obstetrics and Gynecology 2017, MD Michigan State University 1982.

Jarvis Carter Adjunct Assistant Professor
Medical Education 2020, PhD University of South Carolina 2013.

Kitty B. Carter-Wicker Associate Professor
Family Medicine 1995, MD Morehouse School of Medicine 1992.

Oscar Castanon-Cervantes Assistant Professor
Neurobiology 2015, PhD University of Mexico 1995.

Sarita Cathcart Instructor
Family Medicine 1990, MN Emory University 1987.

Austin Chan Assistant Professor
Medicine 2017, MD Emory University of Medicine 2011.

Christine Charaf Associate Professor
Medicine 2021, MD Ross University 2010.

Aalok Chandora Assistant Professor
Psychiatry and Behavioral Sciences 2017, MD Morehouse School of Medicine 2008.

Ayana Chase Assistant Professor
Surgery 2015, MD University of Chicago 2009.

Ed Childs Professor
Surgery 2012, MD Texas A&M Health Science Center 1989.

Nicola Chin Assistant Professor
Pediatrics 2017, MD Temple University 1993.

Indrajit Chowdhury Assistant Professor
Obstetrics and Gynecology 2010, PhD Banaras Hindu University, Varanasi, India 1999.

Morehouse School of Medicine

Marietta Collins Associate Professor
Family Medicine 2016, PhD Emory University 1995.

Saladin Cooper Assistant Professor
Obstetrics and Gynecology 2017, MD Drexel University College of Medicine 1996.

Nicole Cotton Assistant Professor
Psychiatry and Behavioral Sciences 2017, MD Morehouse School of Medicine 2008.

Marvin L. Crawford Associate Professor
Medicine 1991, MD University of Iowa 1988.

Sherry Crump Assistant Professor
Community Health and Preventive Medicine 2015, MD The University of Virginia School of Medicine 1987.

Lynne Cunningham Adjunct Instructor
Obstetrics and Gynecology 2017, MD Finch University of Health Sciences 1994.

Tshaka Cunningham Adjunct Instructor
Microbiology, Biochemistry and Immunology 2019, PhD Rockefeller University 2005.

Dokun Dario Assistant Professor
Medicine 2020, MD Obafemi Awolowo University ILE-IFE Nigeria 1998.

Alec Davidson Professor
Neurobiology 2006, MS/PhD Florida State University 2001.

Mary Davis Instructor
Community Health and Preventive Medicine 1988, MSHA College of St. Francis 1988.

Pangela Dawson Assistant Professor
Medical Education 2018, PhD University of Kentucky 2014.

Daniel Dawes Associate Professor
Community Health and Preventive Medicine 2020, JD University of Nebraska 2006.

Shailia Day Assistant Professor
Medicine 2020, DOM Philadelphia College of Osteopathic Medicine 2011.

Morehouse School of Medicine

- Jason DeBruyne** Associate Professor
Pharmacology and Toxicology 2011, PhD University of Houston 2002.
- Diane Dennis-Griggs** Instructor
Surgery 2020, MSN Georgia State University 2006.
- Stacey Desamours** Adjunct Assistant Professor
Pathology and Anatomy 2010, MD Morehouse School of Medicine 2004.
- Carmen Dickinson-Copeland** Instructor
Microbiology, Biochemistry and Immunology 2018, PhD Morehouse School of Medicine 2016.
- Megan Douglas** Assistant Professor
Community Health and Preventive Medicine 2016, JD Georgia State University 2012.
- Adel Driss** Assistant Professor
Physiology 2017, PhD Campus Universitaire of Tunisia 2003.
- Hao Anh Dong** Assistant Professor
Pharmacology and Toxicology 2019, PhD University of California, Los Angeles 2007.
- Marcus Dumas** Adjunct Instructor
Medical Education 2020, MPH Morehouse School of Medicine 2009.
- Carla Durham Walker** Instructor
Community Health and Preventive Medicine 2011, MA Georgia State University 2002.
- Danita Eatman** Associate Professor
Medical Education 2004, PhD Wright State University 1996.
- Melvin Echols** Assistant Professor
Medicine 2019, MD Morehouse School of Medicine 2002.
- John Christopher Ehlen** Associate Professor
Neurobiology 2007, PhD Kent State University 2000.
- Francis O. Eko** Professor
Microbiology, Biochemistry and Immunology 2000, PhD University of Vienna 1993, MS University of Calabar 1987.

Morehouse School of Medicine

Balsam S. Elhammali Associate Professor
Medicine 2006, MBBCh Alfatah University 1987.

Martha L. Elks Professor
Medical Education 1998, MD University of North Carolina 1977, PhD University of North Carolina 1978.

Yohannes Endeshaw Professor
Medicine 2013, MD Addis Ababa University, Addis Ababa Ethiopia 1981.

Deirdre A. Evans-Cosby Associate Professor
Psychiatry and Behavioral Sciences 2004, MD Meharry Medical College 2000.

Hafiz Fadl Assistant Professor
Medicine 2018, MBBS, School of Medicine Khartoum University 2000.

Norberto Fas Associate Professor
Medicine 2018, MD University of Puerto Rico School of Medicine 1992.

Omofolarin Fasuyi Assistant Professor
Family Medicine 2019, MBBS University of Ibadan College of Medicine 2004.

Shaheen Fatima Instructor
Medicine 2019, MD Windsor University School of Medicine 2015.

Rita B. Finley Associate Professor
Medical Education 2008, PhD Atlanta University 1987, MS Tennessee State University 1980.

Eric Flenaugh Associate Professor
Medicine 2000, MD University of Texas 1994.

Michael Flood Assistant Professor
Medicine 2013, MD Emory University School of Medicine 1988.

Virginia D. Floyd Associate Professor
Clinical Community Health and Preventive Medicine 2006, MD Howard University 1976.

Morehouse School of Medicine

Shaakira Ford Assistant Professor
Psychiatry and Behavioral Sciences 2021, DSW Aurora University 2020.

Jennifer Fowlkes-Callins Assistant Professor
Family Medicine 1993, MD Meharry Medical College 1980.

Sharon C. Francis Assistant Professor
Physiology 2003, PhD University of Alabama at Birmingham 1998.

Cheryl Franklin Assistant Professor
Obstetrics and Gynecology 2008, MD Harvard University 1985.

Mesfin Fransua Professor
Medicine 2002, MD Jimma Health Science Institute 1991.

Yun Mei (Hedy) Fung Assistant Professor
Medical Education 2018, MD University of Wales College of Medicine 1987.

Ann Gaglioti Associate Professor
Family Medicine 2015, MD Case Western Reserve 2005.

Sherlynn Gardner Associate Professor
Pediatrics 2017, MD The University of North Carolina at Chapel Hill 1993.

Shawn Garrison Assistant Professor
Psychiatry and Behavioral Sciences 1990, PhD University of Georgia 1983, MS
University of Georgia 1982.

John O. Gaston Professor
Psychiatry and Behavioral Sciences 1985, MD Yale University School of Medicine 1977.

Franklyn H. Geary Professor
Obstetrics and Gynecology 1993, MD Emory University School of Medicine 1984.

Hirut Gebrekristos Adjunct Assistant Professor
Medicine 2002, PhD Johns Hopkins University 2010.

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Community Health and Preventive Medicine 2014, PhD Tuskegee University 2009.

Morehouse School of Medicine

Jalal Ghali Professor
Medicine 2017, MD Damascus University Medical School 1976.

Ruben Gonzalez Professor
Microbiology, Biochemistry and Immunology 2006, PhD University of Havana 1985.

Hadiyah-Nicole Green-Argieard Assistant Professor
Surgery 2016, PhD The University of Alabama at Birmingham 2012.

Sarah J. Greene Associate Professor
Pathology and Anatomy 2015, PhD Boston University School of Medicine 2010.

Leonard Gyebi Assistant Professor
Medicine 2017, MD Wright State University School of Medicine 2003.

Alula Hadgu Associate Professor
Community Health and Preventive Medicine 2015, PhD University of North Carolina-Chapel Hill 1993.

Janice Hall Assistant Professor
Medical Education 2014, PhD University of North Texas 1998.

Koreen Hall Instructor
Medicine 2014, MSN North Georgia College and State University 2012.

Christina Hamilton Assistant Professor
Obstetrics and Gynecology 2020, MD Medical College of Georgia 2016.

Dale S. Hardy Associate Professor
Medicine 2018, PhD University of Texas School of Public Health 2008.

Sandra Harris-Hooker Professor
Pathology and Anatomy 1983, PhD Atlanta University 1978, MS Atlanta University 1976.

Paul Harvey Adjunct Assistant Professor
Family Medicine 2021, MD Virginia Commonwealth University 1997.

Morehouse School of Medicine

Vernon Henderson Professor
Surgery 2017, MD Stanford University School of Medicine 1980.

Brandon Henry Assistant Professor
Surgery 2020, MD University of Pennsylvania School of Medicine 2010.

Tabia K. Henry Akintobi Professor
Community Health and Preventive Medicine 2006, PhD University of South Florida 2006,
MPH University of South Florida 1999.

Sarah E. Herbert Associate Professor
Psychiatry and Behavioral Sciences 2003, MD Emory University 1985, MSW Wayne
State University 1974.

Janice Herbert-Carter Professor
Medical Education 1990, MD Howard University School of Medicine 1981, MA
University of Maryland 1989.

Natalie Hernandez Assistant Professor
Community Health and Preventative Medicine 2014, PhD University of South Florida
2013.

Jacqueline M. Hibbert Associate Professor
Microbiology, Biochemistry and Immunology 1999, PhD University of the West Indies
1989, MSc University of the West Indies 1978.

Roselyn Hicks Adjunct Assistant Professor
Pediatrics 2019, MD Brody School of Medicine East Carolina University 1997.

Larry Hobson Associate Professor
Surgery 2016, MD Meharry Medical College 1995.

Christopher S. Holaway Adjunct Assistant Professor
Family Medicine 2021, Pharm D. University of Florida 2003.

Kisha Holden Professor
Psychiatry and Behavioral Sciences 2005, PhD Howard University 2003.

Rhonda Holliday Associate Professor
Community Health and Preventive Medicine 2004, PhD University of Alabama 1998, MA
University of Alabama 1996.

Morehouse School of Medicine

Jammie Hopkins Assistant Professor
Community Health and Preventive Medicine 2013, DrPH University of California 2012.

Angelita Howard Assistant Professor
Medical Education 2017, EdD Nova Southeastern University 2005.

Jordan Howard Adjunct Assistant Professor
Psychiatry and Behavioral Sciences 2017, MD Windsor University School of Medicine 2017.

Mark Howse Associate Professor
Medical Education 2017, PhD Florida State University 2006.

Ming Bo Huang Instructor
Microbiology, Biochemistry and Immunology 2005, MD Guangxi Medical University, Nanning, Guangxi, PRC, PhD Preston University 1978.

John Hunter Assistant Professor
Community Health and Preventive Medicine 2015, MD Morehouse School of Medicine 1987.

Sonja Hutchins Professor
Community Health and Preventive Medicine 2017, MD Mount Sinai School of Medicine, 1983.

Lilly Immergluck Professor
Microbiology, Biochemistry and Immunology 2005, MD Ohio State University College of Medicine 2013, MPH University of Illinois 1998.

Chinedu Ivonye Professor
Medicine 2004, MBBS University of Nigeria Medical College 1992.

Sabrina Jackson-Botts Adjunct Instructor
Family Medicine 2021, MMSc., PA-C Emory University School of Medicine Physician Assistant Program 1997.

Sanjay Jain Associate Professor
Medicine 2013, MBBS University of Rajasthan, Jaipur, India 1987.

Suman Jana Associate Professor
Medicine 2019, MD India Institute of Medial Sciences, New Delhi 1994.

Morehouse School of Medicine

Smitha John Associate Professor
Medicine 2015, MBBS T.D. Medical College, India 2005.

Alecia Johnson Assistant Professor
Pathology and Anatomy 2016, MD Morehouse School of Medicine 2008.

Erica Johnson Associate Professor
Microbiology, Biochemistry and Immunology 2020, PhD Morehouse School of Medicine 2008.

Khadeja Johnson Associate Professor
Medicine 2008, MD Mount Sinai School of Medicine 2005.

Shaneeta Johnson Associate Professor
Surgery 2016, MD Loma Linda University School of Medicine 2003.

Laura Joseph Assistant Professor
Pediatrics 2018, MD New York University School of Medicine, 2008.

Charlene Justin Adjunct Instructor
Family Medicine 2021, MMSc. Saint Francis University 2013.

Sheril Kalarithara Assistant Professor
Psychiatry and Behavioral Sciences 2015, MD University of Buffalo School of Medicine 2011.

Fatima Kasiah Assistant Professor
Psychiatry and Behavioral Sciences 2017, MD Ross University School of Medicine 2011.

Riba C. Kelsey Assistant Professor
Family Medicine 2003, MD University of Maryland School of Medicine 1997.

Imran Khan Assistant Professor
Medicine 2017, MD Ross University School of Medicine 2007.

Kmarie King Professor
Surgery 2018, MD Washington University School of Medicine 1998.

Victor Kirksey Instructor
Medical Education 2019, MPH Morehouse School of Medicine 2016.

Morehouse School of Medicine

Ward G. Kirlin Professor
Pharmacology and Toxicology 1985, PhD Emory University 1996, MS Oklahoma University 1979.

Brenda J. Klement Associate Professor
Medical Education 2006, PhD Kansas State University 1994.

Sri Lakshmi Kollepara Assistant Professor
Medicine 2018, MBBS Deccan College of Medical Sciences 2005.

Kofi Kondwani Assistant Professor
Community Health and Preventive Medicine 2005, PhD Maharishi International University 1998, MS Maharishi International University 1994.

Dzifa Kpodzo Associate Professor
Surgery 2013, MD Harvard Medical School 2006.

Mary Langley Professor
Community Health and Preventive Medicine 1995, PhD Georgia State University 2000, MPH University of Alabama 1981.

Rigobert Lapa-Bula Associate Professor
Medicine 1999, MD University of Kinshasa 1987, PhD Catholic University of Louvain 1999.

Marissa Lapedis Assistant Professor
Family Medicine 2019, MD University of Michigan Medical School 2015.

Tennille Leak-Johnson Assistant Professor
Physiology 2020, PhD Wake Forest University 2007.

Regina Lee Assistant Professor
Obstetrics and Gynecology 2019, MD Medical College of Georgia 2012.

Tiandong Leng Assistant Professor
Neurobiology 2015, PhD Sun Yat-sen University, Guangzhou 2008.

David A. Levine Professor
Pediatrics 1995, MD University of Connecticut 1986.

Morehouse School of Medicine

Lilianne Lewis Assistant Professor
Pediatrics 2019, MD Duke University School of Medicine 2012.

James Lillard Professor
Microbiology, Biochemistry and Immunology 1999, PhD University of Kentucky 1996,
MBA Emory University 2002.

Dong Liu Associate Professor
Physiology 2008, MD Zhejiang University 1999, MS Wuhan University 1993.

Julia Liu Professor
Medicine 2020, MD Faculty of Medicine Toronto 1995.

Mingli Liu Assistant Professor
Microbiology, Biochemistry and Immunology 2015, PhD PUMC Peking Union Medical
College, Beijing, PR China 2000.

Woo-Kuen Lo Professor
Neurobiology 1983, PhD Wayne State University 1978, MA State University of New
York 1974.

Li Ma Assistant Professor
Microbiology, Biochemistry and Immunology 2015, PhD Morehouse School of Medicine
2014.

Dominic Mack Professor
Medicine 2009, MD Meharry Medical College 1987.

Marlene Y. MacLeish Professor
Medical Education 1995, EdD Harvard University 1978.

Peter R. MacLeish Professor
Neurobiology 1998, PhD Harvard University 1977.

Roland Matthews Professor
Obstetrics and Gynecology 2002, MD State University of New York 1989.

Gail A. Mattox Professor
Psychiatry and Behavioral Sciences 1989, MD Meharry Medical College 1976.

Morehouse School of Medicine

Robert M. Mayberry Professor
Community Health and Preventive Medicine 1995, PhD University of California 1983,
MPH University of California 1980.

Nkechi M. Mbaezue Associate Professor
Medicine 2018, MSCR Morehouse School of Medicine 2006, MBBS Nigeria Teaching
Hospital 1991.

Ashley McCann Assistant Professor
Family Medicine 2018, MD Loyola University of Chicago Stritch School of Medicine
2016.

James A. McCoy Professor
Medical Education 1990, MD University of Texas Medical Branch 1967.

Gail McCray Instructor
Community Health and Preventive Medicine 2005, MA University of Georgia 2003.

Jamillah McDaniel Assistant Professor
Medical Education 2018, PhD Mercer University, Tift College of Education 2016.

Brian McGregor Assistant Professor
Psychiatry and Behavioral Sciences 2010, PhD University of South Carolina 2008.

Meryl S. McNeal Professor
Medical Education 1985, PhD Georgia State University 1990.

Rebecca McPherson Adjunct Assistant Professor
Microbiology, Biochemistry and Immunology 2019, PhD University of Sciences 2016.

Robert Meller Associate Professor
Neurobiology 2010, PhD Weizmann Institute of Science, Israel 1999.

Nina Mena Assistant Professor
Psychiatry and Behavioral Sciences 2019, MD Michigan State University College of
Human Medicine 2013.

Yuan-Xiang Meng Professor
Family Medicine 2003, MBBS China Medical University 1983.

Morehouse School of Medicine

Tamar Middleton Adjunct Assistant Professor
Community Health and Preventive Medicine 2014, MD Morehouse School of Medicine 2000.

Stephanie Miles-Richardson Professor
Community Health and Preventive Medicine 2008, PhD Michigan State University College of Veterinary Medicine and Institute of Environmental Toxicology 1997.

Hina Mir Instructor
Microbiology, Biochemistry and Immunology 2019, PhD The Maharaja University of Baroda India 2011.

Ashley Kennedy Mitchell Assistant Professor
Medical Education 2021, DrPH Georgia Southern University 2019.

Dorothy Mitchell-Leef Adjunct Associate Professor
Obstetrics and Gynecology 2018, MD University of Louisville 1975.

Afolake Mobolaji Assistant Professor
Family Medicine 2015, MD Spartan Health Sciences University School of Medicine 2004.

Valerie Montgomery Rice Professor
Obstetrics and Gynecology 2011, MD Harvard Medical School 1987.

Jada Moore-Ruffin Assistant Professor
Family Medicine 2019, MD Meharry Medical College 1996.

Amy Lovejoy Mork Assistant Professor
Pathology and Anatomy 2012, PhD Kent State University 2012.

Mohamed Mubasher Professor
Community Health and Preventive Medicine 2019, PhD University of Pittsburgh 1991.

Donna Murray Adjunct Assistant Professor
Family Medicine 2021, DMSc, Lynchburg School of Physician Assistant Medicine 2020.

Shobu Namura Professor
Neurobiology 2005, MD Kyoto University 1989, DMSc Kyoto University 1996.

Morehouse School of Medicine

Chantal Navalah Instructor
Medicine 2016, MD Loyola University of Chicago Stritch School of Medicine 2016.

Valerie Newsome-Garcia Assistant Professor
Medical Education 2018, PhD Pennsylvania State University 2013.

Jonathan Nguyen Assistant Professor
Surgery 2016, DO UNTHSC, Texas College of Osteopathic Medicine 2010.

Michelle L. Nichols Associate Professor
Family Medicine 1994, MD University of Mississippi 1990, MS University of Southern Mississippi 1987.

Debra F. Nickell Instructor
Family Medicine 2019, PhD University of Kentucky 2010.

Chamberlain I. Obialo Professor
Medicine 1994, MBBS Ahmadu Bello University 1979.

Adesoji Oderinde Professor
Medicine 2001, MBBS Faculty of Health Sciences University of Ilorin, Kwara State, Nigeria 1992.

Adefisayo Oduwale Professor
Medicine 1997, MBBS University of Lagos College of Medicine, Lagos, Nigeria 1994.

Elizabeth O. Ofili Professor
Medicine 1994, MBBS Ahmadu Bello University 1979, MPH Johns Hopkins University 1984.

Chima J. Ohuabunwo Adjunct Professor
Medicine 2006, MBBS College of Health Sciences Nigeria 1990.

Joel A. Okoli Professor
Surgery 1996, MD Yale University 1981, MPH Yale University 1981.

Benedicta Okoye Instructor
Family Medicine 2018, MSN South University 2016.

Morehouse School of Medicine

- Raimot Olanrewaju** Assistant Professor
Obstetrics and Gynecology 2017, MD Medical College of Georgia 2011.
- Folashade Omole** Professor
Family Medicine 2000, MBBS Obafemi Awolowo University, Nigeria 1989.
- Yusuf Omosun** Assistant Professor
Microbiology, Biochemistry and Immunology 2012, PhD University of Ibadan 2005.
- Anekwe E. Onwuanyi** Professor
Medicine 2002, MBBS University of Lagos College of Medicine, Nigeria 1983.
- Oliva Osaji** Instructor
Medical Education 2019, MPH Morehouse School of Medicine 2016.
- Ghada Osko** Assistant Professor
Pediatrics 2007, MD Damascus University School of Medicine, Syria 1979.
- Kencliffe Palmer** Assistant Professor
Medicine 2017, MD Ross University, West Indies 2010.
- John Patrickson** Professor
Neurobiology 1994, PhD Howard University 1978.
- Douglas Paulsen** Professor
Pathology and Anatomy 1980, PhD Wake Forest University 1979.
- Jason Payne** Assistant Professor
Pediatrics 2019, MD Morehouse School of Medicine 2013.
- Priscilla E. Pemu** Professor
Medicine 2002, MBBS University of Benin 1988.
- Kiwita S. Phillips** Associate Professor
Obstetrics and Gynecology 2010, MD Harvard Medical School 2006.
- Mario Ponce** Assistant Professor
Medicine 2020, MD Universidad Peruana Cayetano Heredu 2007.

Morehouse School of Medicine

Lawrence Powell Assistant Professor
Family Medicine 2006, MD University of Chicago 1991.

Michael Powell Professor
Microbiology, Biochemistry and Immunology 1998, PhD University of Texas at Dallas 1993.

Rakale Collins Quarells Associate Professor
Community Health and Preventive Medicine 2000, PhD Howard University 1993.

Alexander Quarshie Associate Professor
Community Health and Preventive Medicine 2003, MBChB University of Ghana 1993, MSc University of London 1999.

Palanisamy Rajasekaran Adjunct Assistant Professor
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- George N. Guild** Adjunct Clinical Assistant Professor
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Psychiatry & Behavioral Sciences 2016, MD St. George University School of Medicine 2010.
- Belen Gutter** Assistant Professor
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Surgery 2019, MD 2019 University of Kansas School 2004.

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Morehouse School of Medicine

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Family Medicine 2020, DO Michigan State University School of Osteopathic Medicine 2002.

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Psychiatry & Behavioral Sciences 2014, PsyD Argosy University 2002.

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Morehouse School of Medicine

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Morehouse School of Medicine

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Morehouse School of Medicine

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Morehouse School of Medicine

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Morehouse School of Medicine

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- David Webb** Adjunct Clinical Assistant Professor
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- Joseph Weissman** Adjunct Assistant Professor
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Medicine 1982.
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Surgery 2017, MD University of Illinois College of Medicine 2009.
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Morehouse School of Medicine

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- Beverly Young** Clinical Assistant Professor
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CAMPUS MAP

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- A. Louis W. Sullivan National Center For Primary Center (NCPC)
- B. Hugh M. Gloster Building (HGB)
- C. Medical Education Building (MEB)
- D. Research Wing
- E. Public Safety/Parking Deck
- F. Multi-Disciplinary Research Center (MRC)
- G. Facilities
- H. Harris Building