



EAST TENNESSEE STATE
UNIVERSITY

Medical Professions
Advisement



**PRE-
MEDICINE**

Guide

The Pre-Medicine track at ETSU prepares students for application to a four-year Doctor of Allopathic Medicine (MD) or Doctor of Osteopathic Medicine (DO) degree program. Completion of a bachelor's degree is required for acceptance to most medical schools.

DID YOU KNOW THERE ARE TWO PATHS TO BECOMING A PHYSICIAN?

Allopathic Medicine Doctors of allopathic medicine (MDs) are medical doctors who treat disease and injury using counteractive methods. For example, they will prescribe antibiotics to kill bacteria that have caused an infection. Allopathic physicians often work in public or private hospitals or clinics and many have private practices. Although many allopathic physicians become internists, generalists, or family practitioners, some specialize in other medical fields.

Osteopathic Medicine Doctors of osteopathic medicine (DOs) practice a “whole person” approach to health care. Osteopathic physicians understand how all the body's systems are interconnected and how each one affects the others. They focus special attention on the musculoskeletal system, which reflects and influences the condition of all other body systems. Osteopathic physicians often work in public or private hospitals or clinics and many have private practices. Although many osteopathic physicians become internists, generalists, or family practitioners, some specialize in other medical fields.

DOs and MDs are Alike in Many Ways

- Both DOs and MDs complete four years of basic medical education.
- After medical school, both DOs and MDs obtain graduate medical education through internships, residencies, and fellowships. This training lasts three to eight years and prepares DOs and MDs to practice a specialty.
- DOs and MDs can choose to practice in any specialty of medicine—such as pediatrics, family medicine, psychiatry, surgery or ophthalmology.
- DOs and MDs must pass comparable examinations to obtain state licensure.
- DOs and MDs both practice in accredited and licensed health care facilities.

EMPLOYMENT OPPORTUNITIES

756,800
jobs in 2018

812,000
jobs projected in 2024

MEDIAN SALARY

\$204,135
for primary care in 2018

\$227,992
for specialists in 2018

For more information, see the Bureau of Labor Statistics <http://www.bls.gov/ooh/healthcare/physicians-and-surgeons.htm>

APPLICATION PROCESS

Students should start preparing for application approximately 18 months prior to when they desire to enter medical school. This process will include University Evaluation, MCAT preparation, and taking the MCAT, followed by application. Most students apply to medical school the summer after their junior year, but students should consult with their MPA Counselor to determine their application timeline. Applications typically open in May; deadlines vary from August through March. Please research your school choices to determine application due dates.

Most allopathic medical schools participate in the American Medical College Application Service (AMCAS). Most osteopathic medical schools participate in the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS). Many medical schools require or recommend a university committee letter of evaluation during the application process. Please visit the MPA website for additional information.

| FRESHMAN | SUMMER | SOPHOMORE | SUMMER | JUNIOR | SUMMER | SENIOR |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------|--------|-----------------------------------|-------------|------------|
| Complete medical school prerequisite requirements | | | | | | |
| Build professional relationships with professors, advisors, counselors, and health care professionals for letters of recommendation | | | | | | |
| Community service / volunteer work / job shadowing / engagement in student organizations; Document experiences | | | | | | |
| Choose a major | | | | | | |
| | Gain research experience | | | | | |
| | Campus visits to professional schools of interest | | | | | |
| | | | | Request letters of recommendation | | |
| | | | | MCAT prep and exam | | |
| | | | | Committee Evaluation | | |
| | | | | | Application | |
| | | | | | | Interviews |

TIMELINE

ADVISEMENT

Pre-medicine is not a major. Due to course sequencing and preparation for the MCAT and application, it is recommended to declare your major as early as possible. Medical schools are interested in students who excel in the sciences and mathematics, but you do not have to major in these disciplines. Choose a major/minor that you enjoy and that plays to your strengths. Students should speak with an MPA counselor before declaring a major.

It is strongly recommended that you meet with your MPA Counselor and your major advisor each semester before registering for the following semester. Your major advisor is there to prepare you for graduation, while your MPA Counselor is there to prepare you for application. Students who receive scholarships or participate in specialized ETSU programs (such as athletics or Honors College programs) must also seek advisement from those departments. Serious consequences can occur if students fail to meet with advisors (e.g., failure to graduate on time, missing appropriate courses to prepare for the MCAT, etc.).

MPA COUNSELOR CONTACT

Medical Professions
Advisement Office

423-439-5602

WHAT DOES IT TAKE TO GET INTO MEDICAL SCHOOL?

Allopathic Medicine

Overall GPA 3.72

2019 average as reported by the American Association of Medical Colleges (AAMC)

Science GPA 3.66

2019 average Biology, Chemistry, Physics, and Math (BCPM) GPA as reported by AAMC

Osteopathic Medicine

Overall GPA 3.6

2019 average as reported by the American Association of Colleges of Osteopathic Medicine (AACOM)

Science GPA 3.53

2019 average Biology, Chemistry, Physics, and Math (BCPM) GPA as reported by AACOM

MCAT Average Composite Score

Allopathic Medicine 511.6

Osteopathic Medicine 503.8

Core Preparation Courses

Different schools may have varying prerequisite requirements. It is up to the student to research and ensure the required courses are completed before application to the preferred school(s) of interest.

Students should maintain a minimum of 17-19 credit hours per semester.

| | | |
|----------------------------|-----------|---------------------------------------------|
| Biology | 8 hours | BIOL 1110/1111 and BIOL 1120/1121 |
| General Chemistry | 8 hours | CHEM 1110/1111 and CHEM 1120/1121 |
| Organic Chemistry | 10 hours | CHEM 2010/2011 and CHEM 2020/2021 |
| Physics* | 8 hours | PHYS 2010/2011 and PHYS 2020/2021 |
| Communication** | 9 hours | ENGL 1010, 1020, & COMM 2025, 2045, or 2055 |
| Sociology | 3 hours | SOCI 1020 |
| Biochemistry | 4-8 hours | Consult with your MPA counselor |
| Philosophy/Humanities*** | 3 hours | PHIL 2640, PHIL 2020 OR PHIL 2030 |
| Probability and Statistics | 3 hours | MATH 1530 |

Additional Recommended Courses

| | | |
|---------------------------------|---------|-------------------------|
| General Genetics | 5 hours | BIOL 3100/3141 |
| Cell Biology | 5 hours | BIOL 3150/3151 |
| Human Anatomy/ Human Physiology | 8 hours | HSCI 3000/3020 |
| Calculus I and II | 8 hours | MATH 1910 and MATH 1920 |
| Comparative Anatomy | 4 hours | BIOL 3220 |
| Molecular Biology | 3 hours | BIOL 4647 |
| Microbiology | 4 hours | HSCI 3320/3321 |
| Immunology | 3 hours | HSCI 3540 |

*Calculus-based physics (PHYS 2110 and 2120) is strongly recommended.

** COMM 2055 is recommended

***PHIL 2030 is recommended for the MCAT philosophy knowledge requirement; it does not fill a General Education requirement.

Gap Year

Some students choose to take one or more gap years before applying to medical school.

Learn more about what your gap year should include:

<https://students-residents.aamc.org/applying-medical-school/article/what-do-during-gap-years/>

The MCAT Entrance Exam

The MCAT (Medical College Admissions Test) is generally taken at the end of a student's junior year for both MD and DO schools, or should be taken when the student is prepared. Complete all pre-requisite courses before taking the MCAT, and consult with your MPA Counselor to develop your MCAT study plan.

The MCAT tests four sections:

- Biological and Biochemical Foundations of Living Systems
- Chemical and Physical Foundations of Biological Systems
- Psychological, Social, and Biological Foundations of Behavior
- Critical Analysis and Reasoning Skills

What can I be doing now to strengthen my application to medical school?

RELATED EXPERIENCE Students are encouraged to explore the medical field through shadowing, employment, and volunteer work. Medical schools want to know that a student has worked in the field, observed what is involved, and still has the desire to continue in that profession. (It is extremely important that students planning to apply to osteopathic medical schools obtain shadowing experiences with a DO.) Quality of exposure is more important than quantity.

VOLUNTEER EXPERIENCE Medical schools are looking for candidates who express a commitment to community service. Students should seek volunteer projects that focus on giving back to the community.

EXTRACURRICULARS The admissions committees of medical schools are interested in seeing a range of extracurricular activities, especially those demanding a significant leadership role. Students should demonstrate their ability to balance full academic schedules with extracurricular involvement on and off campus and/or through employment opportunities. ETSU has many organizations that students can join. Students should visit ETSU's Student Activities and Organizations office or webpage (etsu.edu/sorc) for more information regarding extracurricular activities. It is not beneficial to simply join an organization; you must demonstrate leadership qualities!

ONLINE ETIQUETTE Please consider personal email addresses when corresponding with professional schools. First impressions are often based on correspondence and email addresses should be appropriate for professional communication. Messages and images sent electronically are reflections of judgment and potential suitability for professional careers. Inappropriate behaviors shared through an accessible venue can be viewed and shared by anyone and may compromise your admission to medical school.

WATCH WHAT YOU POST!



HEALTH-RELATED STUDENT ORGANIZATIONS

Alpha Epsilon Delta

American Medical Student Association

American Student Dental Association

Animal Health & Science Student Organization

Christian Medical & Dental Associations

Chronic Illness and Disease Awareness

EM/ERGE

ETSU RAM Chapter

Health Occupations Students of America

Multicultural Association of Pre-Health

Physician Assistant Student Organization

Pre-Optometry Student Organization

Pre-Pharmacy Student Organization

Pre-Student Osteopathic Medicine Association

Timmy Global Health

Greek life, service organizations, and faith-based organizations also provide excellent opportunities for involvement and leadership.

AAMC CORE COMPETENCIES

These 15 Core Competencies are essential for competitive medical school applicants. How will you demonstrate these competencies?

Pre-Professional Competencies

- Service Orientation
- Social Skills
- Cultural Competence
- Teamwork
- Oral Communication
- Ethical Responsibility to Self and Others
- Reliability and Dependability
- Resilience and Adaptability
- Capacity for Improvement

Thinking and Reasoning Competencies

- Critical Thinking
- Quantitative Reasoning
- Scientific Inquiry
- Written Communication

Science Competencies

- Living Systems
- Human Behavior

(From AAMC. Learn more about Core Competencies for entering medical students: <https://students-residents.aamc.org/applying-medical-school/article/core-competencies/>)

HOW CAN I GET EXPERIENCE?

You can start by asking your own primary care provider or specialist for shadowing opportunities.

QUILLEN COLLEGE OF MEDICINE Quillen College of Medicine offers excellent structured clinical internship opportunities for students. Many of these experiences are seasonal and include an application process, so do your research early to keep from missing out on the next cycle.

MEDICAL HORIZONS This summer program, the result of a partnership between ETSU's Quillen College of Medicine and Ballad Health, allows students to participate in four 1-week internships in various specialties including family medicine, pediatrics, internal medicine, surgery, psychiatry, and obstetrics/gynecology. In addition to shadowing physicians in various specialties, you will also receive lectures on topics related to the medical field.

Learn more and apply for the program at etsu.edu/com/sa/admissions/medicalhorizons/default.php

ANATOMY INTERNSHIPS These internships, which run in the fall, spring, and summer semesters, offer students hands-on experience in the gross anatomy lab at ETSU's Quillen College of Medicine. Students participate in projects, observe dissections, and practice suturing.

Learn more and apply for an internship at etsu.edu/com/dbms/academics/anatomy.php

QUILLEN'S PATIENT SIMULATION LAB Gain experience in Quillen's patient simulation lab to learn more about opportunities available to budding health professionals and to experience hands-on learning, much like you would as a medical student.

Learn more at etsu.edu/com/simlab/summerinternship.php

RURAL COMMUNITY HEALTH PROJECT This experience, best suited to students who are interested in rural health careers, involves a 6-8-week group project supervised by a health care professional. You will have the chance to help address real health problems within a community by performing data collection, interviewing the public, preparing health education materials, and/or working in health promotion. You will also be shadowing and observing the work of your physician supervisor.

Learn more and apply at etsu.edu/com/ruralprograms/premedical/community.php

QUILLEN PIPELINE PROGRAM This program matches ETSU undergraduate pre-med students with a mentor who is currently a QCOM student. Application information is emailed to MPA students each year.

SUMMER HEALTH PROFESSIONS EDUCATION PROGRAM (SHPEP) This is a six-week academic enrichment program for freshman and sophomore college students who want to become physicians or dentists. SHPEP hosts students at 13 program sites across the country, including Duke University, the University of Virginia, and University of Louisville.

Learn more and apply at www.shpep.org

KEY RESOURCES

Allopathic Medicine

American Association of Medical Colleges (AAMC)

<https://www.aamc.org>

- Check out AAMC Aspiring Docs for resources for pre-med students.
- Subscribe to the Pre-Med Navigator Newsletter

Osteopathic Medicine

American Association of Colleges of Osteopathic Medicine (AACOM)

<https://www.aacom.org>

Choose DO

<https://choosedo.org/>



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