

MONTGOMERY COLLEGE – TRANSFER PLANNING PAGE for Community College Students PRE-MEDICINE and PRE-DENTAL

Choosing a Major:

At Montgomery College, there is no "Pre-Medicine" (or pre-dental/Pre-Veterinary) major. Students typically follow the Biological Sciences Associate of Science degree prior to transfer. Students seek Pre-Med advising from both science professors and counselors.

Students who want to apply to medical or dental school must first complete a four-year Bachelor's degree. Most four-year colleges and universities also do not have a "Pre-Med" major - instead, schools will work with students to choose a major that best fits their interests and academic strengths.

Majors at the University-Level - Sample advice from UMBC (University of Maryland, Baltimore County):

UMBC pre-health students declare various majors. Most of these students naturally are attracted to the sciences and decide to major accordingly, although majoring in the sciences is not required for medical, dental, optometry, or veterinary school. **Any major** is acceptable for the pre-health areas that fall under The PreMedical and PreDental Advising Office (pre-medical, dental, optometry, podiatry, veterinary). Students should follow their individual passions while aligning their choices with their academic **strengths and abilities**. About **75%** of pre-medical, pre-dental, pre-optometry, and pre-veterinary students are biology majors, followed by **20%** biochemistry majors, while the rest typically fall under bioinformatics, chemical engineering, interdisciplinary studies, math, philosophy, psychology and other myriad choices. Maintaining an excellent academic record is crucial, given our accepted students are averaging 3.7 overall GPA's and 3.7 science GPA's. <https://premed.umbc.edu/home/choice-of-major/>

UMBC Pre-Health Professions Website Recommends:

Most medical schools require a minimum credits of:

- 8 credits of biology laboratory courses (Principles of Biology & one other BIOL)
- 8 cr. inorganic/general chemistry w/ (CHEM 1 & II)
- 8 cr. organic chemistry w/ (CHEM Organic I & II)
- 8 credits of physics with accompanying labs
- 3 credits of Calculus
- 6 credits of English composition and/or literature courses

A few medical schools (5 out of 132) require two semesters of Calculus, while most others require one semester of Calculus or two semesters of College Mathematics.

Given the variability of requirements, UMBC students should complete at least two semesters of college-level mathematics, Calculus & 1 other. Several medical schools (15 out of 32) require 3.0 credits of Biochemistry at the junior level – recommended.

For students who choose a Biology major, UMBC recommends the Biological Sciences Bachelor of Arts (BA) over the Biol. Sci. Bachelor of Science (BS) degree.

University of Maryland, College Park Pre-Health Professions Website recommends:

BIOLOGY 8-12 credits with lab

- Biology I: Principles, Genetics
- Cell Biology
- Recommended: Microbiology and Mammalian Physiology

CHEMISTRY

8 credits inorganic with lab
8 credits organic with lab
3 credits biochemistry

MATH 3 credits

- Calculus I or Applied Calculus
- Recommended/Required at some schools: Calculus II or Statistics


PHYSICS

- 8 credits with lab
- ENGLISH 6 credits
- SOCIAL SCIENCES 6 cr. Recommended:
- Psychology: PSYC 100
- Sociology: SOCY 100

[Johns Hopkins University Pre-Health Professions Website](#) (PDF, ) recommends:

- 2 courses in general (inorganic) chemistry
- 2 courses in organic chemistry
- 2 courses in biology intro or advanced level
- 1 course in biochemistry
- 2 courses in mathematics (calculus intro-level course in statistics)
- 2 courses that emphasize English and/or writing
- 2 courses that emphasize social and behavioral sciences principles

Here are basic points drawn from several Maryland transfer institutions:

- [Requirements for Becoming a Physician - The American Medical Association](#): Everything you need to know as a pre-med student
- [Advice and Guidelines for Towson University Pre-Medical Students](#) (PDF, )

Search thoroughly through the **Pre-Med Advising Sites on each transfer school** of interest for advice.

Finishing all science prerequisites at the community college:

There are very different opinions about this, depending on which medical or dental school site you consult. While some schools state they accept community college credits earned in sciences, there still may be a perception that second-level science courses beyond Principles of Biology and Principles of Chemistry I & II should be taken at a university level. This is not to say that community college courses are less difficult, but some medical and many dental schools still prefer to see courses like Organic Chemistry, Microbiology and Genetics taken at a university level. If you can afford to make a transfer to a university after completing basics in Biology, Chemistry, and Calculus, you may want to consider it. Research this for yourself.

Your choice of a major may make the decision for you. If you choose a major that doesn't include 300- and 400-level sciences (for example, liberal arts majors like history and English, or psychology, business or information systems), then taking sciences at a university level is important. If you pursue a biological science, biochemistry or chemistry major, you will continue to take intensive sciences in the junior and senior year.

Google "community college pre-medicine" to read pre-medicine discussion boards and current articles on the topic

This is a very important decision. Consult a Pre-Med Adviser at your possible transfer school(s) for an opinion.

PRE-MED/PRE-DENTAL/PRE-VETERINARY ADVISING COMMITTEES:

Many schools have a **Pre-Medical/Pre-Dental Advising Committee** made up of faculty who will write a Committee Letter of Recommendation for you. The University of Maryland, College Park and UMBC are two Maryland schools where students can request a Committee Letter. (See the full chart below). Committee Letters of Recommendation are usually considered more persuasive in the application process because it indicates that you have a coordinated team of faculty members who have worked with you on application.

Students at a four-year school often apply to medical schools between the junior and senior year of college. Some universities require that you take a minimum number of science courses at the university level to qualify for a Committee Letter of Recommendation. **University of Maryland, College Park requires that students complete 24 credits in science courses @ UM before a Letter can be written.** If you transfer after finishing 60 credits at a community college, you cannot earn 24 credits in science in your first semester at UMCP as a junior. This pushes your timeline to apply to medical schools to after your senior year rather than between the junior and senior year. This is not always a bad thing - but it's something that you need to be aware of as you plan your years of study. See Gap Year information below on this page.

Search each transfer school's site for "Pre-Med" or Premedicine to find information about policies regarding a "Committee Letter of Recommendation".

GET INVOLVED IN VOLUNTEER ACTIVITIES WHILE ATTENDING MONTGOMERY COLLEGE:

Community college students need get involved in volunteer, leadership, and clinical research activities starting in their second semester of college if possible.

A biology department chair at a MD transfer school said, "Community college transfer students often don't know about all of the other things they need to do to be competitive applicants in addition to getting great grades and preparing for the MCAT test. They have little or no clinical volunteering, research, community service and leadership activities. All four of those things are crucial to being a competitive applicant and many students who are at a university from the start will have several years of consistent activities in all of those areas. I find that transfer students want to start research, leadership activities and volunteering in their junior year and then apply to medical schools, but they will only have a few months of any of those activities, and probably not all of them. Many transfer students need a gap year off just to make time for a significant amount of all of those activities."

The University of Maryland, College Park's Committee Letter of Recommendation has a separate section on the application for students to elaborate on each of the areas below. They state that "Professional schools look for applicants who have at least 10-12 months of clinical experience. Any setting in which you have direct patient contact can provide you with clinical experience." When you request the Committee Letter of Recommendation, you'll need to describe in detail your: 1) Exposure to health care, patients and the clinical setting 2) Community service 3) Research and 4) Work experience.

Find Internship/Volunteer/Work Experiences

- Check with Montgomery College Biology, Chemistry and STEM professors & advisers who may have contacts with local organizations to get involved in research activities.
- Science Internships through Montgomery College (STEM Internships) – search the MC website
- Look on the Career or Employment sections of most hospitals include information about internships that might be available:
 - Holy Cross Silver Spring / Germantown
 - Adventist Healthcare Systems Careers Page
 - Holy Cross Health Careers
 - Medstar Montgomery Medical Center – Olney, MD
 - Sibley Memorial Hospital – Bethesda, MD
 - University of Maryland Medical Center (Various locations & clinics in Maryland) –
- [How to Shadow a Physician](#)
- [General Info on Shadowing a Physician](#)
- Job Shadowing at Nearby Hospitals - Search "Job Shadowing" on each hospital's website

Search for a Pre-Med/Pre-Dental, etc. Summer Enrichment Program for College Students:

Another important way to gain experience and exposure to medical/dental areas is through a Summer Enrichment Program offered by a university. Start searching for summer opportunities in the Fall.

1. [Summer Medical Dental Education Programs](#)
2. [Summer Programs List from University of Maryland, College Park](#)
3. [Johns Hopkins University List of Summer Programs](#)
4. [National Association of Advisors for the Health Professions](#)
5. <https://students-residents.aamc.org/>
6. Syracuse University - [Summer Programs Listed by State](#)
7. Continue the search by Googling "summer pre-medicine college programs"

GRADE POINT AVERAGES (GPA) FOR ADMISSION:

Admission to medical and dental schools is highly competitive. There are hundreds of students applying for very few seats in programs. Admissions committees choose candidates who can walk into an intensive program and get great

grades on the first try without having to repeat classes. Unfortunately, because of extreme competition, low grades and/or repeated courses on a student's transcript raise a red flag.

Although Montgomery College has a Freshman Forgiveness policy that allows you to replace a first low grade with a higher grade when you repeat a class, **most professional schools will re-calculate your Grade Point Average to include all grades earned in a course. Medical and dental schools will look for two GPA's, your overall GPA and a separate Science GPA.**

After you transfer to a four-year university, your community college GPA is still a vital part of your record. Professional schools will calculate your overall GPA by averaging your community college GPA AND the university GPA into one combined number.


How to calculate your GPA adding back in repeated grades: Look at your transcript and count up all grades and credits earned, not just those that are "excluded" as repeated classes. Make a chart with a column each for A / B / C / D / F and under each grade, count the number of credits earned for each grade. Enter all of the totals in a GPA Calculator website: <http://appserv.montgomerycollege.edu/edu/gpacalculator/>

Compare yourself to the competition:

While all schools list a minimum GPA requirement, that GPA may not represent the average GPA of students who are actually admitted. Look for "Profiles of Admitted Students" on school's sites to see what typical GPA/test scores may look like.


Taking a Gap Year:

Taking a "Gap Year" off at some point in your junior or senior year of college, or even after you graduate with a bachelor's degree, is a very common practice these days. It is not considered negatively if you use this gap year to gain experiences that will enhance your admissions profile. This is something that you can discuss with and plan for after transfer to your four-year institution.

- Johns Hopkins University's Pre-Health advising office has a full [list of planning points for a Gap Year](#)
- [Making the Most of Your Gap Year](#) (PDF, ) (Association of American Medical Colleges)

MCAT and DAT TESTS:

Medical and Dental schools have their own specialized entry tests - think of the SAT on steroids. It's not too early to look at what's involved in the MCAT or DAT - here are some starting points:

- What's on the MCAT Test (Medical College Admission Test)? Association of American Medical Colleges
- What's on the DAT (Dental Admissions Test)? American Dental Association
- Although you may not have some of the science knowledge needed yet, there are sections that rely on information taught in General Psychology:
 - www.aamc.org/students/advisors/mcat-advisors/423040/resourcesforstudents.html
 - [MCAT Content in Psychology and Sociology Courses](#) (PDF, )

Although this may be WAY in the future, it's worth knowing that some students enroll in special one-year intensive programs called Post-Baccalaureate Pre-Medicine Certificates after graduation from a four-year university. Students may choose a Post-Bac if they have a degree in a different area and need intensive science study; others use a Post-Bac to improve grades and skills further to get into medical school. It's an expensive investment not usually covered by financial aid. You will encounter more discussions about Post-Bac's after you've transferred to a four-year institution. SEARCH for lists of Post-Baccalaureate Programs.

Work with an advisor each semester while attending MC to stay on track. Find information on the MC Webpage.