

Resources for Engineering Pre-Med Students at Wayne State University

Pre-Med Advisor:

To review pre-med requirements and coordinate credential submission

Kate Bernas
ab9599@wayne.edu
313-577-2680
University Advising Center (1600 Undergraduate Library)

Biomedical Engineering Advisor:

For opportunities in BME research and AGRADE program.

Namrata Murthy, M.A.
murthy@eng.wayne.edu
313-577-1345
Bioengineering Center

Associate Dean for Academic Affairs:

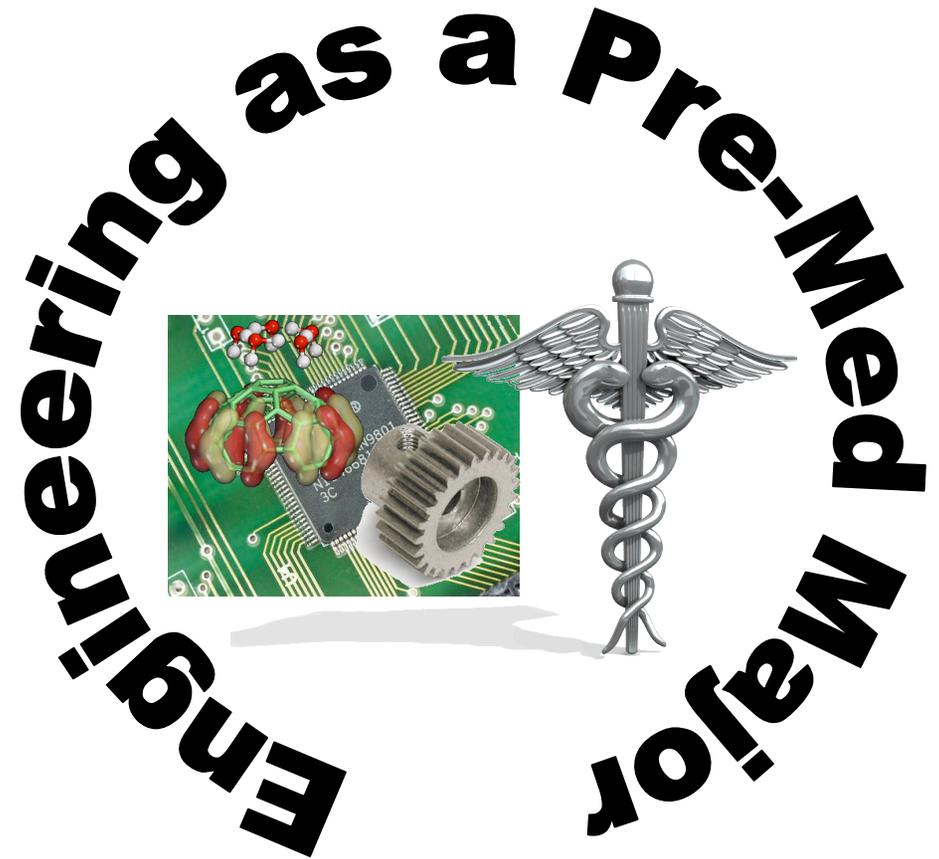
For assistance in coordinating pre-med and engineering requirements

Michele J. Grimm, Ph.D.
mgrimm@wayne.edu
313-577-3040
1513 Engineering Development Center

AMSA – Wayne State Chapter:

American Medical Student Association – also serves pre-med students

www.amsa.wayne.edu



WAYNE STATE
UNIVERSITY

COLLEGE OF ENGINEERING

Why do engineers make great doctors?

Technical Know-How

Medicine in the 21st century grows more and more quantitative and technical in nature. It is important for medical doctors to have a strong understanding of the technology behind medical interventions and the quantitative nature of how the body works. Engineering provides a firm foundation on which you can build this specialized knowledge.

Problem Solving Ability

The foundation of engineering is problem solving – identifying a problem, assessing needs, formulating potential solutions, and evaluating the solutions to select the best option. The process that is involved with engineering design can also be applied directly to both clinical practice and medical research. An engineering education teaches skills that you will find immediately relevant to medicine.

Teamwork

In the world of modern medicine, treating patients often requires a team approach involving doctors, nurses, and allied health professionals. Working with multidisciplinary teams is a key skill for good clinical practice. Engineering survives on teamwork too – and graduates of engineering programs have had significant experience with successful team projects, putting you in a good position to lead teams to support patient health.

How do medical schools view engineering majors?

Medical schools today are looking to build a diverse student body – not admit an entire class of biology majors. Engineering majors stand out in the crowd, demonstrating their academic ability and their commitment to succeed. Admissions committees realize that pursuing an engineering degree is not the path of least resistance to medical school. As an engineering major with strong MCAT scores and excellent science grades, you would present yourself as a strong candidate to any medical school in the country.

What opportunities do I get by majoring in engineering?

Graduates from engineering programs have many doors open to them, in addition to medical school. If for any reason you decide not to attend medical school, an engineering degree will have prepared you for immediate employment, graduate school, or other professional fields (including law, business, and education). Wayne State engineering students have the option of earning an MS in

Biomedical Engineering with only one additional year of study through the AGRADE program.

At Wayne State, engineering students have the opportunity to become involved with biomedical engineering research starting as soon as their freshman year. Many students become co-authors on peer-reviewed articles. This outstanding experience will increase your understanding of biomedical systems and set you apart from other medical school applicants.

How will the pre-med requirements fit in with my engineering requirements?

Due to the nature of engineering education, pre-med requirements will require some classes beyond the minimum curriculum. However, many other courses fit right into the engineering major. The following list of common medical school admissions requirements indicates which courses meet WSU College of Engineering (COE) degree requirements and which may be required in addition to your degree:

Subject	Standard Medical Admissions Requirement	Engineering Requirement	Additional Requirement
Math	2 semesters	MAT 2010 & 2020	None
English	2 semesters	ENG 1020 & 3050	None
Physics	2 semester w/ lab	PHY 2175 & 2185	Lab required*
Inorganic Chemistry	2 semesters w/ lab	CHM 1225/1230	CHM 2280/2290 required**
Organic Chemistry	2 semesters w/ lab		CHM 1240/1250 & CHM 2220/2230 **
Biology	2 semesters w/ lab	BIO 1510 and BME 5010 (Tech Elective)	BIO 1510 lab required

* - EE students must take 1st semester (PHY 2171) lab.

** - ChE students must take CHM 1240/1250, CHM 2220, and CHM 5440 (physical chemistry) or CHM 5600 (biochemistry). CHM 5440 may count as the 2nd semester of inorganic chemistry. Medical schools may accept ChE labs in place of the 2nd sem inorganic lab.

Students who select the Biological Engineering concentration within Chemical Engineering have only 9 additional required credits (inorganic chemistry & 4 lab courses) in order to meet the medical school admissions requirements. Other majors in engineering typically have an extra 17 to 18 credits of coursework beyond their normal requirements, primarily in the area of chemistry.

The College of Engineering works with our pre-med students and the University's pre-med advisor to develop a curriculum that moves each student towards their two goals. Individualized schedules are developed with both the MCAT and prerequisite sequencing in mind.