YOU

2nd Year
- Visit Career Services
- Contact Maureen Barcic Engr Co-op Office

3rd Year
- Identify Labs
- Take GREs
- Research, REU

4th Year
- Summer after 2nd Year
- Summer after 3rd Year
- Take CHEM 310/320, clinical exposure, visit pre-professional health advisor (Andrea Abt)
- Clinical exposures, REU, research or public health experience
- Take MCATs
- Finish AMCAS by June, Begin process of submitting applications
- Interview w/med schools
- Interview w/grad schools

Industry/Job

Grad School

Med School
AFTER-GRADUATION PLANNING BEGINS IN YOUR SECOND YEAR......

- In your second year, you start setting in motion the events and opportunities that will make it possible for you to achieve your goals after graduation.
- This guide will help you make informed decisions at the right times, given the three common career paths for BIOENGINEERING students.

CONTACTS:
Academics : Jack Patzer  patzer@pitt.edu
Co-op Program : Maureen Barcic  paub2m@pitt.edu
Resumes/Interviewing Skills : Jim McCarthy  jam308@pitt.edu
Industrial Internships/Jobs : Jayme Maley  jmaley@pitt.edu
Pre-professional Health Advisor : Andrea Abt  aabt@pitt.edu
Premed Advising (within Bioengineering) : Dr. David Vorp  vorpda@upmc.edu
TIMELINE FOR STUDENTS INTERESTED IN JOBS

STARTING 2ND YEAR
Talk to your advisor.

Develop a resume and cover letter, even if it’s a modest one at this point.

Talk to Career Services, the Co-Op Program and your advisor. They can help you with summer internships, co-ops, general career planning, resume polishing, and mock interviewing.

Practice your professional skills. Career fairs, poster sessions, mock interviews, meet and greet, even Bioengineering social events: all will help you develop the ease and confidence you need to be a great interviewee.

Get experience. Shadow or work in a research lab to build Bioengineering exposure and develop particular interests. Talk to your professors and the grad students—they can help you figure out your specific interests and goals. Network. Network. Network. Ask your professors, TAs, and juniors and seniors to guide you.

THIRD YEAR
Work in a lab, or Work on a Minor in a traditional engineering discipline. These efforts make students more attractive to potential employers.

Choose classes wisely. Work with your advisor to choose classes that are relevant to the area that interests you. If you’re still developing your interests, choose strong foundational courses in engineering.

Update your resume. Network. Mock interview.

SUMMER AFTER 3RD YEAR
Do an industrial internship. Intern with a company you would potentially want to work for. Intern in an area of the country that's rich in Bioengineering jobs.

FOURTH YEAR
Choose a relevant Senior Design project, preferably a project in product development or practical applications of biomedical engineering.

Update your resume. Mock interview.

Start interviewing. Immediately. Talk to the companies with whom you interned. Attend the Career/Job Fairs. Our students are regularly hired by companies that are not “Bioengineering” companies. Talk to your instructors, and meet with Mike Jackson. Look for emails about regional and national bioengineering jobs fairs and job opportunities.

Keep on networking.

Keywords: Internships, Professionalism, Real-world Exposure
**Industry/Jobs: Preparing for Different Types of Jobs**

**SOFTWARE/HARDWARE, MEDICAL DEVICES, INSTRUMENTATION**

Get a Minor. In particular, an ME, ECE, or CS minor, if you’re interested in software or hardware engineering; instrumentation; or medical devices.

Get hands-on experience and real world exposure. Do co-op, internships, work in a research lab, and choose a relevant Senior Design project.

That said, do not hop around too much among projects or labs – you also need to show that you are capable of sustained efforts:

You can show sustained effort by interning twice with the same company, or simply by making sure all your various experiences (REUs, internship, research, Senior Design project) are rationally focused around a single area/interest.

Practice your professional skills. Mock interview.

**CELLULAR ENGINEERING AND LIFE SCIENCES INDUSTRY**

Take advanced courses in your interest area.

Get your hands dirty. Learn the tools of the trade by getting both lab and industry experience. However, be wary of hopping from lab to lab. Instead, try to get a good mix of research lab and “real-world” industry experience:

For example, you could do research in a relevant lab during your junior year…. Then an industrial internship over the summer… and then resume your research in the fourth year. This is just one way to have several experiences, yet show sustained effort.

Practice your professional skills. Mock interview.

**CONSULTING, SERVICES, GOVERNMENT, SALES, DEFENSE POSITIONS**

Do a minor in engineering business or economics, or foreign affairs, foreign language, or another area, as appropriate.

Get real-world exposure through co-op, internships or relevant work experiences.

Practice your professional skills, so that you are comfortable and able to act appropriately.

Mock interview. Practice getting a job. It’s often the interview that makes or breaks your chances.

Do not miss the boat. Consulting, financial services, and many other firms often start interviewing early fall.

**Where are Bioengineering Alumni?**

Cook Vascular Inc.
Ension, Inc.
Rehab. Inst. of Chicago
ALung
Vicon Peak
Visible Genetics, Inc.
Flexuspine
Medrad
Cellomics
Cardiac Assist
Presbyterian Hosp. (ECMO)
Respirronics
Membrane Systems, Inc
FDA
US Patents & Trademarks Office
Orthovita
NIOSH
Evaheart Medical, Inc
Icx-Agentase
AD Instrument

**Where have students done co-op rotations?**

Medrad
Cook Myosite
McNeil Pharmaceuticals
Dupont
Sabic Plastics
The Grad School Route

Where are BME Alumni?

GRADUATE PROGRAMS

Berkeley
Carnegie Mellon University
Drexel University
Duke University
Georgia Tech
Georgetown University
Johns Hopkins University
Marquette University
University of Maryland
Northwestern University
The Ohio State University
University of Michigan
University of Pennsylvania
Stanford University
SUNY Buffalo
University of Pittsburgh
University of Wisconsin
Vanderbilt University
Virginia Tech

TIMELINE FOR STUDENTS INTERESTED IN GRADUATE SCHOOL

SECOND YEAR
Shadow in labs, if you haven’t already.

Talk to professors.

Find a lab “home.”
Also talk to your TAs, your advisor, your professors........

Develop a resume, particularly if you’re planning to do an NSF or NIH summer program (a.k.a. REUs). Jim McCarthy can help you with your resume.

Don’t miss deadlines. Application deadlines for REUs and internships are here before you know it. Start looking into summer programs in September and October.

There are no deadlines per se for summer work in research labs on campus. However, do not assume that you can wait until May to start looking! Most lab directors will want you to be a familiar face, before they commit to mentoring you over the summer. Also, most labs will only take on 1 or 2 new students each year. Some formal REU programs also exist across campus (i.e. Bioengineering, PTEI, HERL,.....)

SUMMER AFTER 2ND YEAR
Research. Work in a lab or do an REU

THIRD YEAR
Research. Make sure you’ve found a lab you love before fall term.

Develop a plan of study. Talk to both your research mentor and your academic advisor about choosing electives based on your long term research interests.

SUMMER AFTER 3RD YEAR
Work in your lab. You need to demonstrate that you have depth of focus. This is most readily shown by working for multiple semesters & summers in a single lab. If you change labs, it needs to be a clear and rational choice, based on your research focus (or based on your best interests, if the former lab was not a good fit for you.

FOURTH YEAR
Take the GRE early fall, if you have not already.

Talk to mentors and advisors before applying!!! Your research mentor, advisor, and other professors are all excellent people to talk strategy with: Where should you apply? Who should you contact? One or more of these advisors should vet your personal statement.

Continuity is key. Your Senior Design Project could be an extension of your research.

But don’t pigeon hole yourself. Remain focused and stick with an endeavor, but be prepared to think, write and talk broadly about your interests. Be open to changing directions in grad school. Be prepared to talk about the types of labs that you would consider, even those that aren’t precisely in your current area of research.

Apply and interview. Know what to expect. Mock interview with your lab group, mentors, and/or advisors.

Keywords: Getting an Early Start, Continuity, In-Depth Focus
The Medical School Route

Timeline for Students interested Medical School

SECOND YEAR
Visit the Pre-professional Health Advisor. This is where you go for advice on all things about medical school.

Don’t wait until 3rd year to fix your GPA. 3.5 or higher is recommended for med school admissions. If your GPA is not ideal, talk to the pre-professional health advisor. There are multiple paths to medical school.

Get clinical exposure. You need to show that you are genuinely interested in patient care. The Pre-professional Health Advisor has lots of ideas and advice: shadow a physician, volunteer in the medical center or hospice, EMT classes.....

Plan for the summer. Application deadlines are here before you know it.

SUMMER AFTER 2ND YEAR
Do research or get more clinical experience. In-depth clinical experience is great, but other experiences—such as an REU, research in a lab, or a health project—are a close second.

THIRD YEAR
Take the MCATs early. Take an MCAT class, if you need one. The April MCAT is strongly recommended.

Prepare to apply. Don’t make the mistake of waiting too long. Write your personal statement and have it vetted. Corral your recommendation letters.

Revisit your med school plans if your GPA is not strong.

SUMMER AFTER 3RD YEAR
Submit your AMCAS application in early June.

Get more clinical or research experience.

FOURTH YEAR
Interview.

Keywords: Clinical Exposures, Early Application, Strong Numbers

Be sure to contact:
Andrea Abt, Pre-professional Health Advisor
In Career Services

Where are Bioengineering Alumni?

MEDICAL SCHOOLS
Georgetown
Boston University
Milton Hershey Medical Center
John Hopkins University
University of Texas Medical School
Jefferson College of Medicine
Kansas City University of Medicine & Bioscience
University of Washington
University of Pittsburgh
University of Rochester
Ohio Medical School
Wright State School of Medicine
Temple
Emory College of Medicine

Typical PreMed Requirements:
2 semesters Chemistry Lecture & Lab
2 semesters Physics Lecture & Lab (covered with labs in engineering courses)
2 semesters Organic Chemistry Lecture & Lab
2 semesters English
2 semesters Math
2 semesters Biology Lecture & Lab. Most medical schools will accept BIOENG 1070, 1071, as substitutes for BIOSC 0150, 0160.