

AN ARCHETYPE

Having informally talked with a number of my incoming freshman students during office hours, wrangled a few during the BME coffee hour, and bothered my graduate cohort time again, I present this archetypical sophomore level biomedical engineering student.

The student's experience level seems to always seem to hover nebulously in the "some" region. They have *some* experience with engineering prior to their sophomore year – perhaps they have taken a first-year engineering course (perhaps it had a project of sorts) or were involved in their FIRST robotics team or their parents are/were engineers or had an erector set (or Legos or K'nex) or they were just the type that took things apart, put them back together, and just "saw the world that way". They have *some* academic experience prior to coming to Michigan (or Purdue or Duke or Berkeley) including participating in mixed high school-college programs, spending a summer camp her, touring, maybe working in a lab. They have *some* biology experience, though it always seems to be in a more distant past ("O I have taken that since freshman year of *high school*").

They see their career trajectories hazily in front of them. "I want to do something with medical devices," "I'm debating going to med school," "I think I want to go to grad school." At this level they appear to see three paths: academia, industry, something else.

Motivations appear to be of two sorts, at least when stated out loud. They have either practiced their pitch (I had a [familial relation] who had [some pathology] and that inspired me to go into [what they've gone into]) or they simply are "the type" or have "the interest" to pursue such ends as a biomedical engineering degree. I suspect the genuinely interesting aspects of the field and its placement within the nexus of so many other interesting fields lies deep at the root of it all.

Almost universally if the student takes a non-required class it is out of their own interest, either in the material itself or in their ability to later claim having taken the class (suspecting, for instance, that it might look good to a talent scout to say that they have such and such on their record). The same also applies, I should note, to many extracurricular activities.

The "hands on activity" approach to learning is agreed upon to be effective with the triumphs and tribulations of the technique cited as the cause of its effectiveness. That is, the struggle to put something together/take it apart with one's own hands is – when paired with a eureka moment – seen after the fact as worthwhile, even if it is not appreciated as such at the time of the doing (though they tend to enjoy that bit of it too).