

The classic, archetypal biomedical engineering student at the University of Michigan will almost certainly have some previous experience in advanced coursework in science (biology, physics, chemistry) or math (calculus, statistics) in high school, be it AP, IB or honors classes. Most students enter the program straight from high school, though a few do come from nontraditional backgrounds like after serving in the military or earning an associate's degree from another institution. All students took two engineering courses as freshman, one that dealt with common computer programming skills such as MATLAB and C++, and another in which they got a taste of an engineering discipline of their choice and worked in teams and presented a potential solution to a relevant problem in that field. Some students have already had engineering or scientific research experience either through the UROP program during their first year at UM or through a summer internship; these students account for maybe half of the total sophomore BME population.



Students' future career aspirations are split between medical school, graduate school (which includes either SUGS or a doctoral degree) and industry. When interviewed, the students who may seem more committed in their aspiration are the pre-med students, because they are currently enrolled in the relevant courses in order to achieve this goal. The industry and graduate school oriented students may be less sure of what their career aspiration is due to lack of experience in either field, but some may still be positive of their post-grad plans. Nevertheless, all of these student's minds can change over the course of their undergraduate career.

Students' motivations for learning mostly include a combination of grades/requirements and a genuine interest in learning more about the material. Which motivational aspect is strongest at the time depends on what the particular student's career motivations are, if they are naturally excited about the material, and the time in the semester in which this question is being posed.

Students enjoyed the group project accomplished in their freshman design class, and enjoyed any class that gave them hands on, practical experience in the BME field. These hands-on and project-based experiences were most influential in deciding the student's broad career aspirations and the area of concentration they wished to pursue. Some students expressed frustration that this design aspect of the program will not be experienced again until senior design. Students were excited for the opportunity in sophomore year to take more engineering classes than they did in freshman year, and were also ready to move past the many prerequisite classes that had taken up most of their first year.

Students who left the BME program after one year for other engineering disciplines cited facts told to them by their advisors that BME students generally needed a master's degree to obtain a job in industry or they found that they were more interested in the physics or hands on aspect of engineering and less interested in the biological science.