Stakeholder: Large Medical Device Company

Roles BME students take in their organizations?

Job Title	Description
Engineer I	Master's level R&D
Principal Engineer	Ph.D level R&D with management responsibilities
Engineer II	Ph.D. level R&D
Regulatory Affairs Specialist	Bachelor's level; focus on FDA compliance, documentation, etc.
Quality Control Engineer	Bachelor's level; focus on manufacturing processes, reliability, repeatability, etc.
Interns	Junior/Senior Undergraduates; problem solving, learning software packages (Matlab, SolidWorks, 3-D printing)

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What technical skills do they look for in BME students?

Job Title	Skills				
R&D (Master's and PhD level)	Functional focus; specific role/expertise to play on the existing team; background in cardiovascular mechanics (group-specific)	Primarily PhDs who have honed a specific skill over time (e.g. designing and manufacturing tissue-engineered heart valves)	Hired for expertise in particular facet of current/proposed project/technology development within the group		
Quality Control/Regulatory Affairs (Bachelor's level)	Tech skills not as important	Documentation skills; can they show that they know how to document research/results?	Familiarity in working with technology; technical jargon/knowing the language	Statistics toolbox (even just if in Excel); stated there is much room for improvement here	
Interns	Matlab, SolidWorks+3-D printing familiarity	Demonstrated ability to keep learning at all times	Statistics toolbox (even just if in Excel); stated there is much room for improvement here		

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What soft skills do they look for in BME students? ***key component/skills for intern and Bachelor's degree hires***

Soft Skill	Description
Problem solving	Ability to assess and address problems/tasks at hand; Typically assessed in the interview process, along with structured thinking —> interviewee given a problem to solve in front of committee
Ability to learn/think on the job	Adaptive, pick up on tasks/concepts quickly
Structured thinking	Manner in which problems are solved, opposite of throwing paint at the wall, meticulous line of thinking and assessing
Leadership	Demonstrated in holding leadership roles in student groups; speak to leading projects/solving problems
Collaborative/teamwork	Demonstrated ability to function within groups of people; working toward a common goal; interdisciplinary background (value in the BME degree)

Notes (Note any additional points that were discussed, but not covered above):

Glaring hole in most applicants'/hires' toolbox: Product development process —> how does it work in the real world? Most students know the first 10-20% of design process…what about the rest of it? How do we take a product all the way to market?

For novice/entry-level positions:
Do not need absolute top grades, soft skills covered above much more important (Obviously, there is a floor. Aptitude is still important, but not nearly most important.). Multiple mentions of structured thinking. This suggests to me that the more problem-based curriculum, the better. Expectation that it is rare for undergraduates/interns to come in with experience, thus the emphasis on soft skills for such hires.

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Challenge in hiring BME students: Broad nature of BME with challenges of Jack-of-all-trades label and (mostly) reality. When hiring BMEs, the company understands what they are getting and that a learning curve will be necessary. Thus, the emphasis on soft skills.

Big focus on showing initiative, especially in working with/diving into technology, working in lab environments, industrial internships, etc. Track record is key in initial review.