



**Roles BME students take in their organizations?**

Job Title	Description
Undergrad Manufacturing Science - Full Time <i>(note: this is the position posting title - the job title would be "Scientist")</i>	<p><i>(Here's an excerpt taken from the online job description by request of stakeholder)</i></p> <p>Responsibilities:</p> <ul style="list-style-type: none"> <li>• Scientists are responsible for:</li> <li>• Ensuring reliability of our manufacturing and utility systems</li> <li>• Searching for and implementing continuous improvements</li> <li>• Maintaining our facilities and processes in a state of compliance with US and global regulations</li> <li>• Managing capital projects</li> <li>• Designing and developing drug delivery systems</li> </ul> <p>The positions are entry level scientist positions in the Tech Services Manufacturing Sciences (TSMS) or Quality organizations and will be in areas including science and technology, direct process support as well as analytical laboratory support. The positions expose employees to the technology, science, and regulatory requirements for making commercialized life-saving medicine in therapeutic areas including: diabetes, oncology, endocrinology, and animal health.</p> <p>Scientists actively contribute to the TSMS and Quality organizations, building a comprehensive understanding of the pharmaceutical industry, and the role scientists play in creating solutions for the Company. Scientists interact with other engineering, manufacturing, development, and other science professionals.</p> <p>Key Objectives/Deliverables</p> <ul style="list-style-type: none"> <li>• Provide a practical real-life solution to a manufacturing business related technical project</li> <li>• Understand the scientific principles required for manufacturing pharmaceutical substances, including the interaction of the chemistry and equipment</li> <li>• Provide technical support to non-routine (e.g. deviation) investigations</li> <li>• Be capable of preparing relevant technical documents, such as Reports, Change Controls, Regulatory submissions, Deviations, Protocols, etc.</li> <li>• Utilize the principles of Good Laboratory Practices / Good Manufacturing Practices and principles to</li> </ul>

	<p>analyze process intermediates, active pharma ingredients, and drug product in a Quality Control Lab (QCL) using analytical techniques such as: wet chemistry, HPLC, ICP, AA, Titration, and/or Microbiological Assays.</p> <ul style="list-style-type: none"> <li>• Actively run a technical improvement agenda within area of responsibility to drive process improvement</li> <li>• Monitor and appropriately react to established statistically based metrics in real-time to assess process variability and capability</li> <li>• Work within cross functional teams in a positive fashion to implement TSMS or Quality objectives and deliver on business plan and quality objectives.</li> </ul>
--	---

**What technical skills do they look for in BME students?**

*"In general, we only hire juniors for internships and seniors for full time."*

*In general, for determining technical competency, we ask the applicant to speak about their experiences from past internships or lab research. "*

Job Title	Skill	Expectation Level			
		Freshman	Sophomore	Junior	Senior
Undergrad Manufacturing Science – Full Time	Good laboratory practices (general)			X – should have lab experience by Junior year to be considered for internships	X – should have lab experience to be considered for full- time
Undergrad Manufacturing Science – Full Time	Analytical Techniques (wet chemistry, HPLC, ICP, AA, Titration, Micro Assays)			X – should have some experience with analytical techniques in lab – not necessarily all of them, but have the understanding of what they are and what they are used for.	X – ideally, would have experience with at least one or a few analytical techniques from undergrad research where the student is self-sufficient in performing the analysis.

Job Title	Skill	Novice	Intermediate	Advanced	Level you would expect to see this expertise (Fresh, Soph, Junior, Senior):
Undergrad Manufacturing Science – Full Time	Good laboratory practices (general)		X – “I would define this as having enough lab experience to feel comfortable in a lab with some direction. We realize that we provide lab training, but the new employee should at least feel comfortable in a lab setting”	X – “I would define this as having enough lab experience to be independent in the lab”	Juniors— Intermediate Seniors— Advanced
Undergrad Manufacturing Science – Full Time	Analytical Techniques (wet chemistry, HPLC, ICP, AA, Titration, Micro Assays)		X – “some experience from courses and able to perform the analysis with an appropriate procedure”	X – “extensive experience from more independent lab work such as undergrad research”	Juniors— Intermediate Seniors— Advanced

**What soft skills do they look for in BME students?**

Soft Skill	Description
Communication skills (oral and written)	“This is something we look for primarily in the interview process. Just the general ability to speak about their experiences clearly and with excitement. For written communication we ask about things like publications, posters, reports, etc.”
Teamwork /	“We look at leadership experiences and will specifically ask about group experiences. Typically we ask



Intrapersonal skills	about overcoming difficult group situations.”
Strategic Thinking / Problem Solving / Judgement Based Decision Making	Thought process in solving a problem or dealing with ambiguity. Making decisions without having all the information you wanted / needed. Ability to influence
Integrity	“This is one of our core values, and very important to us from a scientific/manufacturing perspective. We don’t necessarily ask questions specifically around integrity, but we definitely look for any integrity red flags.”
Motivational Fit	“I know this isn’t really a “soft skill” but motivational fit is really important to us from a retention perspective. We look to hire people who are passionate about helping others and who have a reason they want to work in the pharmaceutical industry.” --They also gauge the student as to how likely they would stay on at the company, which is in the middle of the Midwest, for longer than two years. One of the company’s problems in science and engineering is retaining the younger workers.

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

“We really look for top candidates all around so being well-rounded is important. Our interview process is behavioral based interviewing where the general thought is that past/current performance is an indicator of future performance. Thus, we have them talk a lot about their experiences, what issues they’ve dealt with, and what they’ve learned from these experiences/issues.”