

## Biomedical Engineering Degree Plan – Molecular and Translational Nanomedicine Track

First year BME students take 12 credit hours in the fall and spring, and 6 credit hours in the summer. In subsequent years they are enrolled in 9 credit hours in fall and spring, and 6 credit hours in the summer. Typically, track-related course work is completed in the first two years, and in subsequent years students are enrolled for research, seminars or journal clubs totaling full-time enrollment equivalency. Advancement of the student to Ph.D. candidacy is dependent upon passing the qualifying examination (Exam I), which generally takes place in the second year. In their final semester, students register for BME Dissertation (9 credit hours) instead of research credit hours. A typical degree plan is shown below.

Year	Term	Title	Credit Hour	Total Credit Hrs/Term
<b>First Year</b>	<b>Fall</b>	Professionalism, Responsible Conduct of Research, and Ethics I	1	
		DBS Core Course - Cells	2	
		DBS Core Course - Genes	2	
		DBS Core Course - Proteins	2	
		Laboratory Rotations	5	Semester Total: 12
	<b>Spring</b>	Professionalism, Responsible Conduct of Research, and Ethics II	1	
		Translational Nanomedicine I	1.5	
		Metabolic Imaging of Disease	3	
		Laboratory Rotations	6.5	Semester Total: 12
	<b>Summer</b>	Human Physiology	3	
Research		3	Semester Total: 6	
<b>Second Year</b>	<b>Fall</b>	Seminar/Works in Progress in Biomedical Engineering	1	
		Biostatistics	3	
		Advanced Elective Coursework	3	
		Research	2	Semester Total: 9
	<b>Spring</b>	Seminar/Works in Progress in in Biomedical Engineering	1	
		BME Exam I (Qualifying Exam)	1	
		Translational Nanomedicine II	1.5	
		Research	5.5	Semester Total: 9
	<b>Summer</b>	Dissertation Research	6	Semester Total: 6
	<b>Third Year</b>	<b>Fall</b>	Seminar/Works in Progress in Biomedical Engineering	1
BME Exam II (Dissertation Proposal)			1	
Dissertation Research			7	Semester Total: 9
<b>Spring</b>		Seminar/Works in Progress in Biomedical Engineering	1	
		Dissertation Research	8	Semester Total: 9
<b>Summer</b>		Dissertation Research	6	Semester Total: 6
<b>Fourth Year &amp; Beyond</b>		<b>Fall</b>	Seminar/Works in Progress in Biomedical Engineering	1
	Dissertation Research		8	Semester Total: 9
	<b>Spring</b>	Seminar/Works in Progress in Biomedical Engineering	1	
		Dissertation Research	8	Semester Total: 9
	<b>Summer</b>	Dissertation Research	6	Semester Total: 6

Minimum Credit Hours for PhD 102

<b>*Advanced Elective Courses (Partial List)</b>	<b>Credit Hour</b>	<b>Campus</b>	<b>Course #</b>
Mechanisms of Drug Action	3	UTSW	CR 5301
Optical Microscopy	1.5	UTSW	CR 5095
Cancer Biology I	1.5	UTSW	CAN 5161
Cancer Biology II	1.5	UTSW	CAN 5162
Modern Methods in Structural Biology	1.5	UTSW	MB 5102
Protein Structure and Folding	2	UTSW	MB 5124
Computational Approaches in Proteins	1.5	UTSW	MB 5145
Quantitative Biology I	1.5	UTSW	BSCI 5131
Quantitative Biology II	1.5	UTSW	BSCI 5132
Fluorescence Microscopy	3	UTA	BE5325
Nano Biomaterials and Living System Interaction	3	UTA	BE5333
Drug Delivery	3	UTA	BE5372
Drug Delivery Lab	3	UTA	BE5373
Engineering Systems: Modeling & Simulation	3	UTD	BMEN6372
Introduction to Protein Engineering	3	UTD	BMEN6377
Introduction to Cellular Microscopy	3	UTD	BMEN6380
Advanced Concepts in Microscopy	3	UTD	BMEN6381

\*Must be approved by Mentor and Program Chair

For more detailed descriptions and additional listings of courses available, see the UTSW course descriptions webpages or the websites below.

[http://www.utdallas.edu/student/catalog/gradcurrent/ECS/BME/coursedescriptions\\_biomed.htm](http://www.utdallas.edu/student/catalog/gradcurrent/ECS/BME/coursedescriptions_biomed.htm)

<http://catalog.uta.edu/engineering/bio/>