

Biomedical Engineering Degree Plan – Biomedical and Molecular Imaging 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	
First Year	Fall	Professionalism, Responsible Conduct of Research, and Ethics I	1		
		Basic Principles of NMR Spectroscopy	3		
		Introduction to Biomedical and Molecular Imaging	3		
		Laboratory Rotations	5	Semester Total: 12	
	Spring	Professionalism, Responsible Conduct of Research, and Ethics II	1		
		Basic Principles of MRI	3		
		Metabolic Imaging of Disease	3		
		Laboratory Rotations	5	Semester Total: 12	
	Summer	Human Physiology	3		
		Research	3	Semester Total: 6	
Second Year	Fall	Seminar/Works in Progress in Biomedical Engineering	1		
		Mathematical Biostatistics	3		
		Molecular Probe Development	3		
		Research	2	Semester Total: 9	
	Spring	Seminar/Works in Progress in Biomedical Engineering	1		
		BME Exam I (Qualifying Exam)	1		
		Research	7	Semester Total: 9	
	Summer	Dissertation Research	6	Semester Total: 6	
	Third Year	Fall	Seminar/Works in Progress in Biomedical Engineering	1	
			BME Exam II (Dissertation Proposal)	1	
Dissertation Research			7	Semester Total: 9	
Spring		Seminar/Works in Progress in Biomedical Engineering	1		
		Dissertation Research	8	Semester Total: 9	
Summer		Dissertation Research	6	Semester Total: 6	
Fourth Year & Beyond		Fall	Seminar/Works in Progress in Biomedical Engineering	1	
	Dissertation Research		8	Semester Total: 9	
	Spring	Seminar/Works in Progress in Biomedical Engineering	1		
		Dissertation Research	8	Semester Total: 9	
	Summer	Dissertation Research	6	Semester Total: 6	
	Minimum Credit Hours for PhD 102				

*Advanced Elective Courses (Partial List)	Credit Hour	Campus	Course #
Optical Microscopy	1.5	UTSW	CR 5095
Advanced NMR Spectroscopy	1.5	UTSW	MB 5154
Introduction to Biophotonics	3	UTA	BE 5323
Biomedical Optics Laboratory	3	UTA	BE 5324
Fluorescence Microscopy	3	UTA	BE 5325
Tissue Ultrasound Optical Imaging	3	UTA	BE 5326
Tissue Optics	3	UTA	BE 5327
Image Processing with Matlab	3	UTA	BE 5343
Biomedical Image Processing	3	UTD	BMEN 6365
Introduction to Cellular Microscopy	3	UTD	BMEN 6380
Advanced Concepts in Microscopy	3	UTD	BMEN 6381

*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://catalog.uta.edu/engineering/bio/>