B.S. in BME Undergraduate Curriculum: Revised for Spring 07
This revised curriculum reflects changes in courses required for the Biomechanics track.

B.S. in Biomedical Engineering (131 credits minimum) . The following is a model timeline to complete the requirements for the degree. Beyond the 4th semester, semester credits and BME track course credits may differ from those listed, according to the track requirements provided.

FIRST YEAR:

1st Semester: 18 credits

*	HUM 101	*Humanities/Cultural History GUR* (3-0-3)
	Phys 111	Physics I (3-0-3)
	Phys 111A	Physics I Laboratory (0-2-1)
	Phys 111W	Physics I Workshop (0-1-0)
	Chem 125	General Chemistry I (3-0-3)
	Math 111	Calculus I (4-1-4)
	FED 101	Fundamentals of Engineering Design (2-1-2)
	BME 105	Introduction to Human Physiology I (2-0-2)

2nd Semester: 18 credits

*	HUM 102	*Communication/Cultural History GUR* (3-0-3)
	Phys 121	Physics II (3-0-3)
	Phys 121A	Physics II Laboratory (0-2-1)
	Chem 124	General Chemistry Laboratory (0-2-1)
	Chem 126	General Chemistry II (3-0-3)
	CS 101	Computer Programming and Problem Solving (2-1-2)
	Math 112	Calculus II (4-1-4)
	BME 101	Introduction to Biomedical Engineering (1-0-0)
	BME 106	Introduction to Human Physiology II (1-0-1)

SECOND YEAR:

1st Semester: 18 credits

*	Hist 2xx	*Communication/Cultural History GUR* (3-0-3)
	BME 301	Electrical Fundamentals of Biomedical Engineering (1-3-4)
	BME 302	Mechanical Fundamentals of Biomedical Engineering (1-3-4)
	BME 303	Biological and Chemical Foundations of Biomedical Engineering (3-0-3)
	Math 211	Calculus III A (3-0-3)
**	Math 225	Survey of Probability and Statistics (1-0-1)

2nd Semester: 17 credits

*	Elective	*Basic Social Sciences GUR (3-0-3)*
	BME 310	Biomedical Computing (3-0-3)
+	Chem 243	Organic Chemistry I (3-0-3) ; should be deferred to Third Year and replaced by Mech 320 for Biomechanics Track
	Math 337	Linear Algebra (3-0-3)

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		Math 222	Differential Equations (4-0-4)
	*	PE xxx	(Physical Education:GUR) (0-1-1)

THIRD YEAR:

1st Semester: 16 credits

	*	Elective	*Basic Social Sciences GUR (3-0-3)*
		BME 381	Engineering Models in Physiology I (3-2-3)
	***	BME track	Core BME track course (replace with Chem 243 for Biomechanics track) (3-0-3)
	***	BME track	Core BME track course (3-0-3)
	***	BME track	Core BME track course (3-0-3)
	*	PE xxx	(Physical Education:GUR) (0-1-1)

2nd Semester: 15 credits

	*	Elective	*Open Elective in Humanities and Social Science GUR (3-0-3)*
		BME 382	Engineering Models in Physiology II (3-2-3)
	***	BME track	Core BME track course (3-0-3)
	***	BME track	Core BME track course (3-0-3)
	***	BME track	Core BME track or elective course (3-0-3)

FOURTH YEAR:

1st Semester: 15 credits

	*	Mgmt 390	*Management GUR (3-0-3)*
		BME 495	Capstone Design I (2-0-2)
	***	BME track	Core BME track course (3-0-3)
	***	BME track	Core BME track course (3-0-3)
	***	BME track	Core BME track or elective course (3-0-3)
	***	BME track	BME track elective (laboratory) (0-2-1)

2nd Semester: 14 credits

	*	Elective	*Capstone Seminar - Humanities & Social Science GUR (3-0-3*)
	*	Elective	*Lit/Hist/Phil/STS GUR (3-0-3*); Phil 351, Hist 379, or Hist 381 recommended
		BME 496	Capstone Design 2 (1-3-2)
	***	BME track	BME track elective (3-0-3)
	***	BME track	BME track elective (3-0-3)

* Course or elective satisfies GUR requirements

** Math 225 is co-requisite with BME 302

***FOCUS AREA (34 credits). BME students are required to select a focus area or "track" before their 4th semester. The curriculum for each specialized track requires 34 credits, 27 of which must be in engineering and science or design.

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Specialized BME curricula are offered in three areas: (1) bioinstrumentation, (2) biomechanics, (3) biomaterials and tissue engineering. The lists below give the courses that are required in each track. In addition, each track is completed by a number of upper-level technical electives that are chosen in consultation with track advisors.

Bioinstrumentation:

		BME 372	Biomedical Electronics (3-0-3)
		BME 333	Biomedical Signals and Systems (3-0-3)
		BME 373	Biomedical Electronics II (3-0-3)
		BME 489	Medical Instrumentation (3-0-3)
		ECE 251	Digital Design (3-1-3)
		ECE 252	Microprocessors (3-0-3)
		Advanced Elective	(Choose by consultation with advisor) (16 credits required of which 9 must be engineering science or design)

Biomaterials and Tissue Engineering:

		BME 420	Biomaterials and Compatibility (3-0-3)
		BME 427	Biotransport (3-0-3)
		BME 430	Fundamentals of Tissue Engineering (3-0-3)
		BME 422	Biomaterials Characterization (3-0-3)
		Mech 320	Statics and Strength of Materials (3-0-3)
		ChE 210	Chemical Process Calculations I (2-1-2)
		ChE 230	Chemical Engineering Thermodynamics I (3-1-3)
		Chem 244	Organic Chemistry II (3-0-3)
		MtSE 301	Principles of Material Science and Engineering (3-0-3)
		Advanced Elective	(Choose by consultation with advisor) (8 credits of which 4 must be engineering science or design)

Biomechanics:

		BME 351	Intro to Biofluid Mechanics (3-0-3)
		BME 451	Biomechanics I (3-0-3)
		BME 452	Biomechanics II (3-0-3)
		BME 478	Intro to CAD for Biomechanics (2-2-3)
		BME 420	Biomaterials and Compatibility (3-0-3)
		Mech 236	Dynamics (2-0-2)
	+	Mech 320	Statics and Strength of Materials (3-0-3)
		Advanced Elective	(Choose by consultation with advisor) (14 credits of which 7 must be engineering science or design)