UMass Dartmouth
COLLEGE OF ENGINEERING

Catalog Year 2019-20 to present
Class of 2023 and beyond

B.S. Bioengineering Curriculum

Freshman Year

First Semester			Lec	Lab	C	Second Semester			Lec	Lab	C
ENL	101	Critical Writing & Reading I	3	0	3	ENL	102	Critical Writing & Reading I	3	0	3
CHM	153[1]	Principles Modern Chem. I	3	0	3	CHM	152	Principles Modern Chem. II	3	0	3
CHM	161	Intro. to Applied Chem. I	1	2	1	MTH	154	Calc for Appl Sci & Eng II	4	0	4
BNG	101	Intro. to Bioengineering	3	0	3	PHY	111	Physics for Appl Sci & Eng I	4	2	4
MTH	153	Calc for Appl Sci & Eng I	4	0	4						
EGR	111	Intro Engineering & Comput.	2	3	3						
					17						**14**

Sophomore Year

First Semester			Lec	Lab	C	Second Semester			Lec	Lab	C
EGR	241	Engin. Mechanics: Statics	3	0	3	BNG	232	Funda. Engi. Bio. Lab	0	3	1
ENL	266	Technical Communication	3	0	3	BNG	255	Biology for Engineers	3	0	3
MTH	213	Calc for Appl Sci & Eng III	4	0	4	MTH	212	Differential Equations	3	0	3
PHY	112	Physics for Appl Sci & Eng II	4	2	4	BNG	220	Biochem. Thermodynamics	3	0	3
BNG	219	Chem Methods in Bioengin	3	0	3	ECE	201	Circuit Theory I	3	1.5	3.5
					17						**13.5**

Junior Year

First Semester			Lec	Lab	C	Second Semester			Lec	Lab	C
BNG	311	Statistics for Bioengineer	3	0	3	BNG	312	Biotransport	3	0	3
BNG	318	Biomeasurement & Control	3	0	3	BNG	315	Biomechanics	3	0	3
BNG	320	Biomeasurement Laboratory	0	3	1	BNG	316	Biomaterials	3	0	3
BNG	321	Quant. Physiology	3	0	3	BNG	317	Biomechanics Laboratory	0	3	1
BNG	322	Quant. Physiology Lab	0	3	1			University Study	3	0	3
		University Study	3	0	3						
		University Study	3	0	3						
					17						**13**

Senior Year

First Semester			Lec	Lab	C	Second Semester			Lec	Lab	C
EGR	497	Bioeng. Capstone Design I	1	2	2	EGR	498	Bioeng. Capstone Design II	1	2	2
BNG	411	Bioengineering Lab	2	3	3	BNG	423	Biosystems Analysis & Dsgn.	3	1.5	3.5
BNG		Specialization	3	0	3	BNG		Specialization	3	0	3
BNG		Specialization	3	0	3	BNG		Specialization	3	0	3
		University Study	3	0	3			University Study	3	0	3
					14						**14.5**

Total Credits 120

Lec = Lecture (hours) Lab = Lab (hours) C = Number of Credits

University Studies Requirements – Choose 1 course from each Cluster area (5 courses total)

Cluster 3 The Cultural World
- a) Literature 3 credits
- b) Visual and performing Arts 3 credits

Cluster 4 The Social World
- a) Human Questions and Contexts 3 credits
- b) The Nature of US Society 3 credits
- c) The Nature of Global Society 3 credits

[1] CHM 151 may be taken in place of CHM 153.