

BME Curriculum Checklist

Name/Class: _____

Focus Area: _____

Course Plan for Class of '23 (3.31.20)	Credits	Semester	✓
Core Requirements (33)			
<i>Required for all BME majors.</i>			
Career Exploration in BME*	0	So,F - Sr,S	
580.101 BME Basecamp	1	Fr, S	
580.151 Structural Biology of Cells	3	Fr, F	
580.153 Structural Biology of Cells Lab	1	Fr, F	
580.221 Molecules and Cells	4	So, F	
580.241 Statistical Physics	2	So,F or J,F	
580.242 Biological Models and Simulations	2	So,S or J,S	
580.243 Linear Signals and Systems	2	So,F or J,F	
580.244 Nonlinear Dynamics of Biological Systems	2	So,S or J,S	
580.246 Systems and Controls	2	So,S or J,S	
580.248 Systems Biology of the Cell	2	So,S or J,S	
580.475 Biomedical Data Science	2	Jn, F	
580.477 Biomedical Data Science Lab Lab	1	Jn, F	
580.485 Computational Medicine: Cardiology	2	Jn, F	
580.487 Computation Medicine: Cardiology Lab	1	Jn, F	
580.4XX Core Elective I**	3	Jn, S	
580.4XX Core Elective II**	3	Jn, S	

Physics & Chemistry (18)			
<i>Required for all BME majors.</i>			
171.101 General Physics for Physical Science Majors I	4	Fr, F	
173.111 General Physics I Lab	1	Fr, F	
171.102 General Physics for Physical Science Majors II	4	Fr, S	
173.112 General Physics II Lab	1	Fr, S	
030.101 Introductory Chemistry I	3	Fr, F	
030.105 Introductory Chemistry Lab I	1	Fr, F	
030.102 Introductory Chemistry II	3	Fr, S	
030.106 Introductory Chemistry Lab II	1	Fr, S	

Mathematics (20)**			
<i>Required for all BME majors.</i>			
110.108 Calculus I	4	Fr, F	
110.109 Calculus II	4	Fr, S	
110.202 Calculus III	4	So, F	
553.291 Linear Algebra & Differential Equations	4	b4 So, S	
Advanced Statistics (Prob/Stat is typical)	4	So, S	
**** LinAlg + DiffEq	8		

Computing (3)			
<i>An introductory programming course must be taken (see handbook for approved courses).</i>			
500.11x Gateway Computing (JAVA, Matlab, Python)	3		

* Note: Students will be enrolled via a Blackboard Community page beginning Sophomore fall and every semester throughout their remaining semesters in the program.

** Note: Pick 2 courses (580.424, 580.427, 580.452, 580.453, 580.454, 580.494). Courses taken in excess of this requirement can be used in the focus area list if applicable.

*** Note: Completion sequence of required math courses is based on student's placement from AP and/or transfer credit. See sample programs for more information.

**** Note: Students planning to minor or double major in AMS should take the separate Linear Algebra (AS.110.201) and Differential Equations (AS.110.302).

Other Notes:

- Fr = Freshman, So = Sophomore, Jn = Junior, Sn = Senior,
F = Fall, S = Spring, by = take before that semester.

- Semesters that have already been typed in are the recommended ones for that particular course.

Credits	Semester	✓
BME Focus Area (21) and Design (6)		
<i>At least 21 credits chosen from the Focus Area Course Sheets.</i>		
*3 or fewer credits can be chosen from the non-ULE focus area area course list or research, 580.112, or 580.211.		
*3 or fewer credits can be chosen from the 200-level focus area course list or 580.212.		
*3 credits from BME Advanced Focus Area Research (approval required) may be used.		
Focus Area Total (21)		
Design Total (6)		
<i>At least 6 credits from the Approved Design Course List. (i.e. DTeam 580.311/312 or 580.411/412, 580.480/481, 580.580/581 601.455/456, etc.).</i>		

Other Electives (10)			
<i>These can be any courses taken at JHU, but are often pre-requisite courses or courses required for medical school (i.e. Orgo I, Orgo II, and Orgo Lab). Courses taken S/U can be used.</i>			

Humanities/Social Sciences (18)			
<i>Courses need an H or S designation.</i>			
<i>At least 1 course must be 300-level.</i>			
300-level:			

THE FOLLOWING BOXES (Writing Intensive) DOES NOT REQUIRE ANY EXTRA CREDITS, THEY CAN BE SATISFIED USING COURSES THAT ARE IN OTHER BOXES:

Built-In Requirement: Writing Intensive Courses			
<i>At least 6 credits of courses with the "W" designation must be completed (courses filled into the Electives or Humanities/Social Sciences boxes may be used here).</i>			

TOTAL CREDITS (≥129 needed): _____