BME Curriculum Checklist

Name/Class: _____

Focus Area: _____

Course Plan for Class of '22 (02.01.20)	Credits	Semester	✔

Core Requirements (30)

Required for all BME majors.

Career Exploration in BME*	0	Fr,S-Sr,S	
580.111 Modeling and Design	2	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	
580.243 Linear Signals and Systems	2	So, F	
580.244 Nonlinear Dynamics of Biological Systems	2	So, S	
580.246 Systems and Controls	2	So, S	
580.248 Systems Biology of the Cell	2	So, 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)

Required for all BME majors.

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)***

Required for all BME majors.

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)

An introductory programming course must be taken (see handbook for approved courses).

500.200 Gateway Computing (or equivalent)			

* 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 (CTE Lab, RNA Sequencing, Neuro Lab, or Build an Imager)

*** 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 and Design (27)

At least 21 credits chosen from Focus Area Course Sheets.

At Least 6 credits chosen from Approved Design Course List.

*3 credits from the 2nd semester of Design Team, 2nd semester of Indp. Design (580.581), or a 2nd semester of Research may be counted. Research will required an additional approval step.

*3 or fewer credits can be chosen from the non-ULE list for the focus area course list - research, the first half of Design Team, or 580.580.

*3 or fewer credits can be chosen from list of 200-level focus area course list (available in certain focus areas.

Focus Area Total (21)			
Design Total (6)			

Other Electives (13)

*These can be **any** courses taken at JHU, but are often pre-requisite or courses required for medical school (i.e. Orgo I, Orgo II, and Orgo Lab).*

Humanities/Social Sciences (18)

Six courses (3 credits each) need an H or S designation.

At least 1 course must be 300-level.

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

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).

TOTAL CREDITS (≥129 needed): _____