

**Sample Schedule for MechE/BME Additional Majors in the BMEC Track**  
Updated 4/5/22

**Mechanical Engineering  
First Year**

<b>Fall</b>	
24-101	Fundamentals of Mechanical Eng.
21-120	Differential & Integral Calculus
99-101	Computing@Carnegie Mellon
33-141	Physics I for Engineering Students
76-101	Interpretation and Argument

<b>Spring</b>	
21-122	Integration & Approximation
xx-xxx	Second Introductory Engineering Course
xx-xxx	Physics II or Chemistry or Computer Science
xx-xxx	General Education Course

**Second Year**

<b>Fall</b>	
24-221	Thermodynamics I
21-254	Linear Algebra and Vector Calculus for Engineers
24-261	Mechanics I: 2D Design
24-xxx	24-200 Machine Shop OR 24-251 Electronics for Sensing and Actuation
xx-xxx	Physics II or Chemistry or Computer Science
xx-xxx	Lab requirement
xx-xxx	General Education Course
39-210	Experiential Learning I

<b>Spring</b>	
24-231	Fluid Mechanics
24-262	Mechanics 2: 3D Design
xx-xxx	Physics II or Chemistry or Computer Science
21-260	Differential Equations
24-xxx	24-200 Machine Shop OR 24-251 Electronics for Sensing and Actuation
xx-xxx	General Education Course
39-220	Experiential Learning II
xx-xxx	Lab Requirement

**Third Year**

<b>Fall</b>	
24-322	Heat Transfer
24-351	Dynamics (Fall or Spring)
24-370	Mechanical Design: Methods and Applications
xx-xxx	Engineering Statistics Requirement
xx-xxx	General Education Course
39-310	Experiential Learning III

**Mechanical Engineering + BME  
First Year**

<b>Fall</b>		<b>Units</b>
24-101 or <b>42-101</b>	Fundamentals of Mechanical Eng. or <b>Intro to Biomedical Engineering</b>	12
21-120	Differential & Integral Calculus	10
99-101	Computing@Carnegie Mellon	3
33-141 or <b>03-121</b>	Physics I for Engineering Students or <b>Modern Biology</b>	9-12
76-101	Interpretation and Argument	9

**Total: 46**

<b>Spring</b>		<b>Units</b>
21-122	Integration & Approximation	10
24-101 or <b>42-101</b>	Fundamentals of Mechanical Eng. or <b>Intro to Biomedical Engineering</b>	12
xx-xxx	Physics II or Chemistry or Computer Science	10-12
33-141 or <b>03-121</b>	Physics I for Engineering Students or <b>Modern Biology</b>	9-12
xx-xxx	General Education Course	9

**Total: 41-43**

**Second Year**

<b>Fall</b>		<b>Units</b>
24-221	Thermodynamics I	9
21-254	Linear Algebra and Vector Calculus for Engineers	11
24-261	Mechanics I: 2D Design	10
24-xxx	24-200 Machine Shop OR 24-251 Electronics for Sensing and Actuation	1-3
33-107	Physics II or Chemistry or Computer Science	10-12
<b>42-201</b>	<b>Professional Issues in BME</b>	<b>3</b>
<b>42-202 or 42-203</b>	<b>Physiology or BME Laboratory</b>	<b>9</b>
39-210	Experiential Learning I	0

**Total: 50-54**

<b>Spring</b>		<b>Units</b>
24-231	Fluid Mechanics	10
24-262	Mechanics 2: 3D Design	10
xx-xxx	Physics II or Chemistry or Computer Science	10-12
21-260	Differential Equations	9
24-xxx	24-200 Machine Shop OR 24-251 Electronics for Sensing and Actuation	1-3
<b>42-202 or 42-203</b>	<b>Physiology or BME Laboratory</b>	<b>9</b>
39-220	Experiential Learning II	0

**Total: 49-53**

**Third Year**

<b>Fall</b>		<b>Units</b>
24-322	Heat Transfer	10
24-351	Dynamics (Fall or Spring)	10
24-370	Mechanical Design: Methods and Applications	12
xx-xxx	Engineering Statistics Requirement	9
<b>42-xxx or 42-302</b>	<b>BMEC Track Elective or BME Systems Modeling and Analysis</b>	<b>9-12</b>
xx-xxx	General Education Course	9
39-310	Experiential Learning III	0

**Total: 50**

**Total: 43-46**

**Total: 50-55**

**Total: 53-57**

**Total: 49-53**

**Total: 59-62**

	<b>Spring</b>		<b>Units</b>		<b>Spring</b>		<b>Units</b>
24-302	Mechanical Engineering Seminar I		2	24-302	Mechanical Engineering Seminar I		2
24-311	Numerical Methods		10	24-321	Numerical Methods		10
24-321	Thermal-Fluids Experimentation		12	24-311	Thermal-Fluids Experimentation		12
24-352	Dynamics Systems and Controls (Fall or Spring)		12	24-352	Dynamics Systems and Controls (Fall or Spring)		12
xx-xxx	General Education Course		9	<b>42-xxx or 42-302</b>	<b>BMEC Track Elective or BME Systems Modeling and Analysis</b>		<b>9-12</b>
			<b>Total:</b>	<b>45</b>			<b>Total:</b>
							<b>45-48</b>
<b>Fourth Year</b>				<b>Fourth Year</b>			
	<b>Fall</b>		<b>Units</b>		<b>Fall</b>		<b>Units</b>
24-441 or 24-671	<i>Engineering Design II: Conceptualization and Realization or Electromechanical Systems Design</i>		12	24-452	Mechanical Systems Experimentation (Fall or Spring)		9
24-452	Mechanical Systems Experimentation (Fall or Spring)		9	<b>42-401</b>	<b>Foundations of BME Design</b>		<b>6</b>
xx-xxx	Elective		9	<b>42-xxx</b>	<b>BMEC Track Elective</b>		<b>9-12</b>
xx-xxx	Elective		9	xx-xxx	General Education Course		9
xx-xxx	General Education Course		9	xx-xxx	General Education Course		9
			<b>Total:</b>	<b>48</b>	xx-xxx	Elective	9
							<b>Total:</b>
							<b>51-54</b>
	<b>Spring</b>		<b>Units</b>		<b>Spring</b>		<b>Units</b>
24-441 or 24-671 or 24-631	<i>Engineering Design II: Conceptualization and Realization or Electromechanical Systems Design or Thermal Design</i>	OR	12	<b>42-402</b>	<b>BME Design</b>		<b>9</b>
24-xxx	Mechanical Engineering Technical Elective		9-12	<b>42-xxx</b>	<b>BMEC Track Elective</b>		<b>9-12</b>
xx-xxx	Elective		9	xx-xxx	General Education Course		9
xx-xxx	Elective		9	xx-xxx	General Education Course		9
xx-xxx	General Education Course		9	xx-xxx	Elective		9
			<b>Total:</b>	<b>48-51</b>			<b>Total:</b>
							<b>45-48</b>

Minimum no. of units to graduate: 381 (MechE), 397 (BME/MechE)