Sample Schedule for MSE/BME Additional Majors in the BMTE Track
Updated 3/25/22

Materials Science & Engineering

First Year

	Fall	**Units**
21-120	Differential & Integral Calculus	10
xx-xxx	Approved PCC/SDM CIT General Education Elective	9
99-101	Computing@Carnegie Mellon	3
27-100	Engineering Materials of the Future	12
33-141	Physics for Engineering Students I	12
	Total:	**46**

	Spring	**Units**
21-122	Integration, Differential Equations and Approximation	10
xx-xxx	Second Introductory Engineering Course	12
33-142	Physics II for Engineering Students	12
76-101	Interpretation and Argument	9
	Total:	**43**

Second Year

	Fall	**Units**
27-201	Structure of Materials	9
27-210	Materials Engineering Essentials	6
27-215	Thermodynamics of Materials	12
21-254	Linear Algebra and Vector Calculus for Engineers	11
15-110 or 15-112	Principles of Computing or Fundamentals of Programming & Comp. Sci.	*10-12*
09-105	Modern Chemistry I	10
39-210	Experiential Learning I	0
	Total:	**58-60**

	Spring	**Units**
27-202	Defects of Materials	9
27-216	Transport in Materials	9
27-217	Phase Relations and Diagrams	12
21-260	Differential Equations	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
39-220	Experiential Learning II	0
	Total:	**48**

Third Year

	Fall	**Units**
27-301	Microstructure and Properties I	9
27-xxx	MSE Restricted Elective	9
33-225 or 03-121 or 09-217	*Quantum Phys and the Structure of Matter or Modern Biology or Organic Chemistry*	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
xx-xxx	Free Elective	9
39-310	Experiential Learning III	0
	Total:	**45**

	Spring	**Units**
27-305	Introduction to Materials Characterization	6
27-367	Selection and Performance of Materials	6
27-xxx	MSE Restricted Elective	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
36-220	Engineering Statistics and Quality Control	9
xx-xxx	Free Elective	9
	Total:	**48**

Materials Science & Engineering + BME

First Year

	Fall	**Units**
21-120	Differential & Integral Calculus	10
03-121	**Modern Biology**	**9**
99-101	Computing@Carnegie Mellon	3
27-100 or **42-101**	Engineering Materials of the Future or **Intro to Biomedical Engineering**	12
33-141	Physics for Engineering Students I	12
	Total:	**46**

	Spring	**Units**
21-122	Integration & Approximation	10
27-100 or **42-101**	Engineering Materials of the Future or **Intro to Biomedical Engineering**	12
33-142	Physics II for Engineering Students	12
76-101	Interpretation and Argument	9
	Total:	**43**

Second Year

	Fall	**Units**
27-201	Structure of Materials	9
27-210	Materials Engineering Essentials	6
27-215	Thermodynamics of Materials	12
21-254	Linear Algebra and Vector Calculus for Engineers	11
42-202 or 42-203	**Physiology or BME Laboratory**	**9**
09-105	Modern Chemistry I	10
39-210	Experiential Learning I	0
	Total:	**57**

	Spring	**Units**
27-202	Defects of Materials	9
27-216	Transport in Materials	9
27-217	Phase Relations and Diagrams	12
21-260	Differential Equations	9
42-201	**Professional Issues in BME**	**3**
42-202 or 42-203	**Physiology or BME Laboratory**	**9**
39-220	Experiential Learning II	0
	Total:	**51**

Third Year

	Fall	**Units**
27-301	Microstructure and Properties I	9
27-xxx	MSE Restricted Elective	9
15-110 or 15-112	*Principles of Computing or Fundamentals of Programming & Comp. Sci.*	*10-12*
xx-xxx	Approved PCC/SDM/II/WE Elective	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
42-xxx or 42-302	**BMTE Track Elective* or BME Systems Modeling and Analysis**	9
39-310	Experiential Learning III	0
	Total:	**55-57**

	Spring	**Units**
27-305	Introduction to Materials Characterization	6
27-367	Selection and Performance of Materials	6
27-xxx	MSE Restricted Elective	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
42-xxx or 42-302	**BMTE Track Elective* or BME Systems Modeling and Analysis**	9
36-220	Engineering Statistics and Quality Control	9
	Total:	**48**

Fourth Year

	Fall	**Units**
27-401	Capstone Design I	6
27-xxx	MSE Restricted Elective	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
xx-xxx	H&SS Elective	9
27-xxx	MSE Restricted Elective	9
xx-xxx	Free Elective	9
	Total:	**51**

	Spring	**Units**
27-402	Capstone Design II	6
xx-xxx	MSE Approved CIT Technical Elective	9
xx-xxx	Free Elective	9
xx-xxx	Free Elective	9
xx-xxx	H&SS Elective	9
	Total:	**42**

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

Fourth Year

	Fall	**Units**
27-401	Capstone Design I	6
xx-xxx	H&SS Elective	9
42-401	**Foundations of BME Design**	**6**
42-xxx	**BMTE Track Elective***	**9**
xx-xxx	Approved PCC/SDM/II/WE Elective	9
xx-xxx	Approved PCC/SDM/II/WE Elective	9
	Total:	**48**

	Spring	**Units**
27-402	Capstone Design II	6
42-402	**BME Design**	**9**
42-xxx	**BMTE Track Elective***	**9**
xx-xxx	H&SS Elective	9
	Total:	**33**

***one BMTE Track elective must be cross-listed as an MSE course in order to fulfill the MSE restricted elective requirement**

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