Biomedical Engineering and Mechanical Engineering **Name:**

Program Total Credits = 156

COURSE	NAME (PREREQS (";" DENOTES "AND"))	TERM	CR	COURSE	NAME (PREREQS (";" DENOTES "AND"))	TERM	CR
1st Year Fall				**1st Year Spring**			
CHEM 111 or CHEM 120	General Chemistry I (MATH 118 or 127 or 141 or 155 or 160 or 161 or 229 or 261)	F, S, SS	4	ENGR 114	Engineering for Grand Challenges (ENGR 111 or MECH 104A or CBE 104A or CIVE 182A)	F, S	3
CHEM 112 or CHEM 121	General Chemistry Lab I (CHEM 111/conc or CHEM 117/conc)	F, S, SS	1	MATH 161	Calc for Physical Scientists II ((MATH 124 or 127); (MATH 159 or 160))	F, S, SS	4
CO 150	College Composition (CO 130 or placement by ACT or SAT or DSP Survey or Challenge Exam)	F, S, SS	3	PH 141	Physics for Scientists and Engineers I (MATH 159/conc or MATH 160/conc or (MATH 126/conc; MATH 155/conc) or (MATH 127/conc; MATH 155/conc))	F, S, SS	5
ENGR 111	Fundamentals of Engineering	F, S	3	AUCC		F, S, SS	3
MATH 160	Calculus for Physical Scientists I (All require a B or better: MATH 124; (MATH 126 or 127))	F, S, SS	4				
		Total	**15**			**Total**	**15**
2nd Year Fall				**2nd Year Spring**			
BIOM 200	Fundamentals of Biomedical Engineering (LIFE 102/conc; MATH 160)	F	2	CHEM 113	General Chemistry II ((CHEM 107 or 111 or 117); (MATH 124 or 127 or 141/conc or 155/conc or 160/conc or 161/conc or 229/conc or 261/conc))	F, S, SS	3
MATH 261	Calculus for Physical Scientists III (MATH 161)	F, S, SS	4	CIVE 260	Engineering Mechanics: Statics (PH 141; (MATH 159 or 160))	F, S, SS	3
MECH 210	Engineering Design: 3D Modeling and Printing	F, S	2	MATH 340	Intro to Ordinary Differential Equations (MATH 255 or 261)	F, S, SS	4
LIFE 102	Attributes of Living Systems	F, S, SS	4	MECH 200A	Intro to Manufacturing Processes: Lecture (MECH 210/conc or MECH 201)	F, S, SS	3
PH 142	Physics for Scientists and Engineers II (PH 141; (MATH 161/conc or 255/conc or 271/conc))	F, S, SS	5	MECH 200B	Intro to Manufacturing Processes: Lab (MECH 200A/conc)	F, S, SS	1
				MECH 231	Engineering Experimentation ((ENGR 111 or ENGR 123 or MECH 104A); MATH 261/conc)	F, S	2
		Total	**17**			**Total**	**16**
3rd Year Fall				**3rd Year Spring**			
BMS 300	Principles of Human Physiology ((BZ 101 or 110 or LIFE 102); (CHEM 103 or 107 or 111))	F, S, SS	4	BIOM 300	Problem-Based Learning BME Lab (BIOM 101 or BIOM 200 or (BIOM 100; CBE 205; MECH 262/conc); (MATH 340 or 345))	S	4
CIVE 261	Engineering Mechanics: Dynamics (CIVE 260)	F, S, SS	3	CIVE 360	Mechanics of Solids (CIVE 260)	F, S, SS	3
MECH 305	Mechanical Engineering Computational Methods (MATH 340/conc)	F, S	3	MECH 342	Fluid Mechanics for Engineers (MATH 340; PH 141; (MECH 337 or ENGR 337 or MECH 339/conc))	F, S	3
MECH 339	Thermodynamics I for Engineers (MATH 261; PH 141)	F, S	3	MECH 439	Thermodynamics 2 (MECH 339)	F, S	3
STAT 315	Statistics for Engineers and Scientists (MATH 155 or 159 or 160)	F, S, SS	3	AUCC		F, S, SS	3
		Total	**16**			**Total**	**16**
4th Year Fall				**4th Year Spring**			
BIOM 441	Biomechanics and Biomaterials (MECH 342/conc; BMS 300/conc; CIVE 360; MECH 324/conc; (MECH 331/conc or MECH 331B/conc; MECH 331A/conc))	F	3	MECH 307	Mechatronics 2 ((ECE 204 or MECH 207); CIVE 261)	F, S	3
MECH 207	Mechatronics 1 (MATH 161; PH 142)	F, S	3	MECH 325	Machine Design with Finite Element Analysis (CIVE 360)	F, S	4
MECH 324	Dynamics of Machines (CIVE 261; MATH 340/conc)	F, S	4	MECH 338	Thermal/Fluid Sciences Lab (MECH 344/conc)	F, S	1
MECH 331A	Intro to Engineering Materials: Lecture ((CHEM 111; CHEM 112) or (CHEM 120; CHEM 121); CIVE 360/conc)	F, S	3	MECH 344	Heat and Mass Transfer ((MECH 339 or MECH 337 or ENGR 337); MECH 342/conc)	F, S	3
MECH 331B	Intro to Engineering Materials: Lab (MECH 331A/conc)	F, S	1	Advanced Writing	CHEM 301 or CO300 or CO301B or JTC 300 or LB 300 (CO150 or HONR193, check course catalog for all prereqs)	F, S, SS	3
				AUCC		F, S, SS	3
		Total	**14**			**Total**	**17**
5th Year Fall				**5th Year Spring**			
BIOM 486A	Biomedical Design Practicum: Capstone Design I (BIOM 300; (BIOM 441; MECH 325; MECH 307)	F	4	BIOM 486B	Biomedical Design Practicum: Capstone Design II (BIOM 486A; (MECH 325; MECH 344)	S	4
CHEM 245	Fundamentals of organic Chemistry (CHEM 107 or 113)	F, S, SS	4	BME-TE	BME Technical Elective _____	F, S, SS	3
BME-TE	BME Technical Elective _____	F, S, SS	3	BME BE	BME Broad Elective _____	F, S, SS	3
ME-TE	MECH Technical Elective _____	F, S	3	AUCC		F, S, SS	3
				AUCC		F, S, SS	3
		Total	**14**			**Total**	**16**

Please note that curricula can change; be sure to check DARS/Degree Audit and with your advisors regularly to ensure you are on track.

AUCCs- Additional All University Core Courses (click here for list)
3 credits - 1C Diversity, Equity, and Inclusion:
6 credits - 3B Arts and Humanities: _____ _____
3 credits - 3C Social/Behavioral Science:
3 credits - 3D Historical Perspective:

Key:

/conc = may be taken concurrently Term: F = Fall, S = Spring, SS = Summer Session

Grey indicates Biomedical Engineering courses

Light green indicates labs

Red indicates time-consuming/difficult courses

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Biomedical Engineering and Mechanical Engineering **Name:**

Honors Track 1 Curriculum Check Sheet - Effective FA25 and after

Program Total Credits = 159

COURSE	NAME (PREREQS (";" DENOTES "AND"))	TERM	CR
1st Year Fall			
CHEM 111 or CHEM	General Chemistry I (MATH 118 or 127 or 141 or 155 or 160 or 161 or 229 or 261)	F, S, SS	4
CHEM 112 or CHEM	General Chemistry Lab I (CHEM 111/conc or CHEM 117/conc)	F, S, SS	1
HONR 192	Honors First Year Seminar	F, S	4
ENGR 111	Fundamentals of Engineering	F, S	3
MATH 160	Calculus for Physical Scientists I (All require a B or better: MATH 124; (MATH 126 or 127))	F, S, SS	4
		Total	**16**
1st Year Spring			
ENGR 114	Engineering for Grand Challenges (ENGR 111 or MECH 104A or CBE 104A or CIVE 182A)	F, S	3
HONR 193	Honors Seminar (HONR 192)	F, S	3
MATH 161	Calc for Physical Scientists II ((MATH 124 or 127); (MATH 159 or 160))	F, S, SS	4
PH 141	Physics for Scientists and Engineers I (MATH 159/conc or MATH 160/conc or (MATH 126/conc; MATH 155/conc) or (MATH 127/conc; MATH 155/conc))	F, S, SS	5
		Total	**15**
2nd Year Fall			
BIOM 200	Fundamentals of Biomedical Engineering (LIFE 102/conc; MATH 160)	F	2
MATH 261	Calculus for Physical Scientists III (MATH 161)	F, S, SS	4
MECH 210	Engineering Design: 3D Modeling and Printing	F, S	2
LIFE 102	Attributes of Living Systems	F, S, SS	4
PH 142	Physics for Scientists and Engineers II (PH 141; (MATH 161/conc or 255/conc or 271/conc))	F, S, SS	5
		Total	**17**
2nd Year Spring			
CIVE 260	Engineering Mechanics: Statics (PH 141; (MATH 159 or 160))	F, S, SS	3
HONR 292 A, B, or C	Honors Seminar (HONR 192; 193) *HONR 292B is recommended to fulfill AUCC 3B	F, S	3
MATH 340	Intro to ordinary Differential Equations (MATH 255 or 261)	F, S, SS	4
MECH 200A	Intro to Manufacturing Processes: Lecture (MECH 210/conc or MECH 201)	F, S, SS	3
MECH 200B	Intro to Manufacturing Processes: Lab (MECH 200A/conc)	F, S, SS	1
MECH 231	Engineering Experimentation ((ENGR 111 or ENGR 123 or MECH 104A); MATH 261/conc)	F, S	2
		Total	**16**
3rd Year Fall			
BMS 300	Principles of Human Physiology ((BZ 101 or 110 or LIFE 102); (CHEM 103 or 107 or 111))	F, S, SS	4
CIVE 261	Engineering Mechanics: Dynamics (CIVE 260)	F, S, SS	3
MECH 305	Mechanical Engineering Computational Methods (MATH 340/conc)	F, S	3
MECH 339	Thermodynamics I for Engineers (MATH 261; PH 141)	F, S	3
STAT 315	Statistics for Engineers and Scientists (MATH 155 or 159 or 160)	F, S, SS	3
		Total	**16**
3rd Year Spring			
BIOM 300	Problem-Based Learning BME Lab (BIOM 101 or BIOM 200 or (BIOM 100; CBE 205; MECH 262/conc); (MATH 340 or 345))	S	4
CIVE 360	Mechanics of Solids (CIVE 260)	F, S, SS	3
HONR 392	Honors Seminar (HONR 193)	F, S	3
MECH 342	Fluid Mechanics for Engineers (MATH 340; PH 141; (MECH 337 or ENGR 337 or MECH 339/conc))	F, S	3
MECH 439	Thermodynamics 2 (MECH 339)	F, S	3
		Total	**16**
4th Year Fall			
BIOM 441	Biomechanics and Biomaterials (MECH 342/conc; BMS 300/conc; CIVE 360; MECH 324/conc; (MECH 331/conc or MECH 331B/conc; MECH 331A/conc))	F	3
HONR 492	Honors Senior Seminar (HONR 392)	F, S	3
MECH 207	Mechatronics 1 (MATH 161; PH 142)	F, S	3
MECH 324	Dynamics of Machines (CIVE 261; MATH 340/conc)	F, S	4
MECH 331A	Intro to Engineering Materials: Lecture ((CHEM 111; CHEM 112) or (CHEM 120; CHEM 121); CIVE 360/conc)	F, S	3
MECH 331B	Intro to Engineering Materials: Lab (MECH 331A/conc)	F, S	1
		Total	**17**
4th Year Spring			
CHEM 113	General Chemistry II ((CHEM 107 or 111 or 117); (MATH 124 or 127 or 141/conc or 155/conc or 160/conc or 161/conc or 229/conc or 261/conc))	F, S, SS	3
MECH 307	Mechatronics 2 ((ECE 204 or MECH 207); CIVE 261)	F, S	3
MECH 325	Machine Design with Finite Element Analysis (CIVE 360)	F, S	4
MECH 338	Thermal/Fluid Sciences Lab (MECH 344/conc)	F, S	1
MECH 344	Heat and Mass Transfer ((MECH 339 or MECH 337 or ENGR 337); MECH 342/conc)	F, S	3
Advanced Writing	CHEM 301 or CO300 or CO301B or JTC 300 or LB 300 (CO150 or HONR193, check course catalog for all prereqs)	F, S, SS	3
		Total	**17**
5th Year Fall			
BIOM 486A	Biomedical Design Practicum: Capstone Design I (BIOM 300; (BIOM 441; MECH 325; MECH 307)	F	4
CHEM 245	Fundamentals of organic Chemistry (CHEM 107 or 113)	F, S, SS	4
HONR 399	Pre-Thesis - Honors	F, S	1
BME-TE	BME Technical Elective _____	F, S, SS	3
ME-TE	MECH Technical Elective _____	F, S	3
		Total	**15**
5th Year Spring			
BIOM 486B	Biomedical Design Practicum: Capstone Design II (BIOM 486A; (MECH 325; MECH 344)	S	4
HONR 499	Senior Honors Thesis (HONR 399)	F, S, SS	3
BME-TE	BME Technical Elective _____	F, S, SS	3
BME BE	BME Broad Elective _____	F, S, SS	3
		Total	**13**

Please note that curricula can change; be sure to check DARS/Degree Audit and with your advisors regularly to ensure you are on track.

Track 1 Honors Program Required Courses in BLUE:

* HONR 192, 193, 292 A, B, or C, 392, 399, 492, 499
* One 200 or 300 level honors course in major (3 credits)
* One 300 or 400 level honors course in major (3 credits)

Reach out to your Honors advisor for Honors course offerings

Key:

/conc = may be taken concurrently Term: F = Fall, S = Spring, SS = Summer Session

Grey indicates Biomedical Engineering courses

Light green indicates labs

Red indicates time-consuming/difficult courses

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Biomedical Engineering and Mechanical Engineering

Name:

Honors Track 2 Curriculum Check Sheet - Effective FA25 and after

Program Total Credits = 159

COURSE	NAME (PREREQS (";" DENOTES "AND"))	TERM	CR
1st Year Fall			
CHEM 111 or CHEM	General Chemistry I (MATH 118 or 127 or 141 or 155 or 160 or 161 or 229 or 261)	F, S, SS	4
CHEM 112 or CHEM	General Chemistry Lab I (CHEM 111/conc or CHEM 117/conc)	F, S, SS	1
HONR 192	Honors First Year Seminar	F, S	4
ENGR 111	Fundamentals of Engineering	F, S	3
MATH 160	Calculus for Physical Scientists I (All require a B or better: MATH 124; (MATH 126 or 127))	F, S, SS	4
		Total	**16**
2nd Year Fall			
BIOM 200	Fundamentals of Biomedical Engineering (LIFE 102/conc; MATH 160)	F	2
MATH 261	Calculus for Physical Scientists III (MATH 161)	F, S, SS	4
MECH 210	Engineering Design: 3D Modeling and Printing	F, S	2
LIFE 102	Attributes of Living Systems	F, S, SS	4
PH 142	Physics for Scientists and Engineers II (PH 141; (MATH 161/conc or 255/conc or 271/conc))	F, S, SS	5
		Total	**17**
3rd Year Fall			
BMS 300	Principles of Human Physiology ((BZ 101 or 110 or LIFE 102); (CHEM 103 or 107 or 111))	F, S, SS	4
CIVE 261	Engineering Mechanics: Dynamics (CIVE 260)	F, S, SS	3
MECH 305	Mechanical Engineering Computational Methods (MATH 340/conc)	F, S	3
MECH 339	Thermodynamics I for Engineers (MATH 261; PH 141)	F, S	3
STAT 315	Statistics for Engineers and Scientists (MATH 155 or 159 or 160)	F, S, SS	3
		Total	**16**
4th Year Fall			
BIOM 441	Biomechanics and Biomaterials (MECH 342/conc; BMS 300/conc; CIVE 360; MECH 324/conc; (MECH 331/conc or MECH 331B/conc; MECH 331A/conc))	F	3
MECH 207	Mechatronics 1 (MATH 161; PH 142)	F, S	3
MECH 324	Dynamics of Machines (CIVE 261; MATH 340/conc)	F, S	4
MECH 331A	Intro to Engineering Materials: Lecture ((CHEM 111; CHEM 112) or (CHEM 120; CHEM 121); CIVE 360/conc)	F, S	3
MECH 331B	Intro to Engineering Materials: Lab (MECH 331A/conc)	F, S	1
AUCC		F, S, SS	3
		Total	**17**
5th Year Fall			
BIOM 486A	Biomedical Design Practicum: Capstone Design I (BIOM 300; (BIOM 441; MECH 325; MECH 307)	F	4
CHEM 245	Fundamentals of organic Chemistry (CHEM 107 or 113)	F, S, SS	4
HONR 399	Pre-Thesis - Honors	F, S	1
BME-TE	BME Technical Elective _____	F, S, SS	3
ME-TE	MECH Technical Elective _____	F, S	3
AUCC		F, S, SS	3
		Total	**18**

COURSE	NAME (PREREQS (";" DENOTES "AND"))	TERM	CR
1st Year Spring			
CO 150	College Composition (CO 130 or placement by ACT or SAT or DSP Survey or Challenge Exam)	F, S, SS	3
ENGR 114	Engineering for Grand Challenges (ENGR 111 or MECH 104A or CBE 104A or CIVE 182A)	F, S	3
MATH 161	Calc for Physical Scientists II ((MATH 124 or 127); (MATH 159 or 160))	F, S, SS	4
PH 141	Physics for Scientists and Engineers I (MATH 159/conc or MATH 160/conc or (MATH 126/conc; MATH 155/conc) or (MATH 127/conc; MATH 155/conc))	F, S, SS	5
		Total	**15**
2nd Year Spring			
CIVE 260	Engineering Mechanics: Statics (PH 141; (MATH 159 or 160))	F, S, SS	3
HONR 292 A, B, or C	Honors Seminar (HONR 192; 193) *HONR 292B is recommended to fulfill AUCC 3B	F, S	3
MATH 340	Intro to ordinary Differential Equations (MATH 255 or 261)	F, S, SS	4
MECH 200A	Intro to Manufacturing Processes: Lecture (MECH 210/conc or MECH 201)	F, S, SS	3
MECH 200B	Intro to Manufacturing Processes: Lab (MECH 200A/conc)	F, S, SS	1
MECH 231	Engineering Experimentation ((ENGR 111 or ENGR 123 or MECH 104A); MATH 261/conc)	F, S	2
		Total	**16**
3rd Year Spring			
BIOM 300	Problem-Based Learning BME Lab (BIOM 101 or BIOM 200 or (BIOM 100; CBE 205; MECH 262/conc); (MATH 340 or 345))	S	4
CIVE 360	Mechanics of Solids (CIVE 260)	F, S, SS	3
MECH 342	Fluid Mechanics for Engineers (MATH 340; PH 141; (MECH 337 or ENGR 337 or MECH 339/conc))	F, S	3
MECH 439	Thermodynamics 2 (MECH 339)	F, S	3
AUCC		F, S, SS	3
		Total	**16**
4th Year Spring			
CHEM 113	General Chemistry II ((CHEM 107 or 111 or 117); (MATH 124 or 127 or 141/conc or 155/conc or 160/conc or 161/conc or 229/conc or 261/conc))	F, S, SS	3
MECH 307	Mechatronics 2 ((ECE 204 or MECH 207); CIVE 261)	F, S	3
MECH 325	Machine Design with Finite Element Analysis (CIVE 360)	F, S	4
MECH 338	Thermal/Fluid Sciences Lab (MECH 344/conc)	F, S	1
MECH 344	Heat and Mass Transfer ((MECH 339 or MECH 337 or ENGR 337); MECH 342/conc)	F, S	3
Advanced Writing	CHEM 301 or CO300 or CO301B or JTC 300 or LB 300 (CO150 or HONR193, check course catalog for all prereqs)	F, S, SS	3
		Total	**17**
5th Year Spring			
BIOM 486B	Biomedical Design Practicum: Capstone Design II (BIOM 486A; (MECH 325; MECH 344)	S	4
HONR 499	Senior Honors Thesis (HONR 399)	F, S, SS	3
BME-TE	BME Technical Elective _____	F, S, SS	3
BME BE	BME Broad Elective _____	F, S, SS	3
AUCC		F, S, SS	3
		Total	**16**

Please note that curricula can change; be sure to check DARS/Degree Audit and with your advisors regularly to ensure you are on track.

Additional Requirements for Honors Track 2:
200 Level Honors Option in Major (3 cr): _____
300-400 Level Honors Option in Major (12 cr) : _____ _____ _____ _____
3 credits - 1C Diversity, Equity, Inclusion: _____
6 credits - 3B Arts and Humanitites: _____ _____
3 credits - 3C Social/Behavioral Science: _____
3 credits - 3D Historical Perspective: _____

Key:

/conc = may be taken concurrently Term: F = Fall, S = Spring, SS = Summer Session

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