

Plan of Study

Joint NC State – UNC Asheville

Bachelor of Science in Engineering Curriculum

Mechatronics Concentration (JEM198)

Effective for students entering after August 1, 2019 but before August 1, 2022

FALL SEMESTER

SPRING SEMESTER

Freshman Year

MATH 191	Calculus I	4#	MATH 192	Calculus II	4#
LANG 120	Academic Writing & Crit Inquiry	4^	PHYS 221	Physics I	4#
CHEM 132	General Chemistry	3#	ECE 109	<i>Intro to Computer Systems</i>	3^
CHEM 111	General Chemistry Lab	1#	JEM 180	<i>Intro to Mechatronics Lab</i>	2
E 101	<i>Intro to Engineering & Prob Solving</i>	1	HUM 124	The Ancient World	4
JEM 123	<i>Intro to CAD for Mechatronics Engr</i>	1			17
FYS 178	First-Year Seminar	3 ^a			
		17			

Sophomore Year

MATH 291	Calculus III	4	ECE 211	<i>Electric Circuits</i>	4^
PHYS 222	Physics II	4	ECE 212	<i>Fundamentals of Logic Design</i>	3^
ECE 200	<i>Intro to Signals, Circ & Systems</i>	4^	ECE 220	<i>Analytical Foundations of ECE</i>	3^
ECE 209	<i>Computer System Programming</i>	3^	MAE 208	<i>Engineering Dynamics</i>	3^
MAE 206	<i>Engineering Statics</i>	3^	ECON 104	Microecon. Princip. for Engineers	3
		18			16

Junior Year

ECE 306	<i>Intro to Embedded Systems</i>	3	ECE 310	<i>Design of Complex Digital Sys</i>	3
JEM 420	<i>Mechatronics Systems Modeling</i>	3	JEM 360	<i>Adv Mechatronics Design Lab</i>	2
MAE 201	<i>Engineering Thermodynamics I</i>	3^	MAE 214	<i>Solid Mechanics</i>	3^
MAE 315	<i>Dynamics of Machines</i>	3	MAE 435	<i>Principles of Automatic Control</i>	3
	Course designated ARTS and DI	3 ^b	HUM 214	Medieval and Renaissance World	4
		15			15

Senior Year

JEM 484	<i>Senior Design Mechatronic Engr I</i>	3	JEM 485	<i>Senior Design Mechatronic Engr II</i>	3
MAE 308	<i>Fluid Mechanics</i>	3	MAE 316	<i>Strength of Mechanical Components</i>	3
MAE 310	<i>Heat Transfer Fundamentals</i>	3	LA 478	Cultivating Global Citizenship	4 ^d
HUM 324	The Modern World	4	STAT 225	Intro to Calc-Based Statistics	4
	<i>Approved Advised Elective</i>	3 ^c			14
		16			

Credit Hours Required: 128

Italics indicates NC State Engineering course. Engineering courses are offered in the semester as shown.

^a FYS 178 is not required for students with college credit that was earned after high school graduation.

^b Can be separated into one ARTS-designated course and one Diversity Intensive (DI)-designated course.

^c JEM 455, MSE 201 or *Advised Elective* approved by Director.

^d or HUM 414 (4).

Students must satisfy UNC Asheville foreign language proficiency requirement via testing or credit courses.

Grade of C or better required.

^ Grade of C- or better required.

2/9/2022