

Plan of Study

Joint NC State – UNC Asheville

Bachelor of Science in Engineering Curriculum

Mechatronics Concentration (JEM198)

Effective for students entering August 1, 2019

FALL SEMESTER				SPRING SEMESTER			
<u>Freshman Year</u>							
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	<u>4</u>	
JEM 123	<i>Intro to CAD for Mechatronics Engr</i>	1				17	
FYS 178	First-Year Seminar	<u>3^a</u>					
		17					
<u>Sophomore Year</u>							
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>	<u>3[^]</u>		ECON 104	Microecon. Princip. for Engineers	<u>3</u>	
		18				16	
<u>Junior Year</u>							
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	<u>3^b</u>		HUM 214	Medieval and Renaissance World	<u>4</u>	
		15				15	
<u>Senior Year</u>							
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	<u>4</u>	
	<i>Approved Advised Elective</i>	<u>3^c</u>				14	
		16					

Credit Hours Required: 128

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

^a LA 178 is not required for transfer students with 25 credits or more; Minimum Credit Hours Required is 125.

^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.

9/22/2020