

BS - PHYSICS NJCU/BS Mechanical Engineering NJIT

	NJCU Course Number	Description	Credits	NJIT Equivalent Course
First Year				
First Semester				
	Phys 140	Physics for Engineering I, Lecture	3	Phys 111
	Phys 1140	Physics for Engineering I, Recitation and Laboratory	1	Phys 111A
	Engl 101	English Composition I	4	HUM 101
	Math 192	Calculus and Analytic Geometry I	4	Math 111
	FYE XXXX	First Year Experience	3	Fresh. Seminar
			15	
Second Semester				
	Chem 105	General Chemistry I, Lecture	3	Chem 125
	Chem 1105	General Chemistry I, Recitation and Laboratory	2	
	Engl 102	English Composition II	4	HUM 102
	Math 193	Calculus and Analytic Geometry II	4	Math 112
	Phys 141	Physics for Engineering II, Lecture	3	Phys 121
	Phys 1141	Physics for Engineering II, Recitation and Laboratory	1	Phys 121A
			17	
Second Year				
First Semester				
	Chem 106	General Chemistry II, Lecture	3	Chem 126
	Chem 1106	General Chemistry II, Recitation and Laboratory	2	
	Math 292	Calculus and Analytic Geometry III	4	Math 213
	Phys 230	Physics III	3	Phys 234
	Phys 1230	Physics III, Recitation and Laboratory	1	
	Gen Ed		3	
			16	
Second Semester				
	Phys 321	Theory and Applications of E&M	3	Phys 432
	Math 311	Differential Equations	4	Math 222
	Econ 208	Principles of Economics: Micro	3	Econ 201
	FED 101	Fundamentals of Engineering Design	1	Taken at NJIT
	Mech 234	Engineering Mechanics	1	Taken at NJIT
	CIS 101	Computer Programming and Problem Solving	3	Taken at NJIT
			15	
Third Year				
First Semester				
	Phys 301	Thermodynamics and Kinetic Theory	3	Phys 335
	Phys 410	Classical Mechanics	4	Phys 430
	ME 215	Engineering Materials and Processes	3	Taken at NJIT
	Math 279	Statistics and Probability for Engineers	3	Taken at NJIT
	Gen Ed		3	
			16	
Second Semester				
	Phys 405	Introduction to Quantum Mechanics	3	
	ME 231	Kinematics of Machinery	3	Taken at NJIT
	Mech 236	Dynamics	3	Taken at NJIT
	Mech 237	Strength of Materials	3	Taken at NJIT
	Phys 450	Advanced Physics Laboratory (1-4-3)	4	Taken at NJIT - Phys 241
			16	
	NJIT Course Number	Description	Credits	NJCU Equivalent Course
Fourth Year				
First Semester				
	ECE 405	Electrical Engineering Principles (3-0-3)		
	ME 305	Introduction to System Dynamics (3-0-3)		
	ME 311	Thermodynamics (3-0-3)		
	ME 315	Stress Analysis (3-0-3)		
	Phil 334	Engineering Ethics (3-0-3)		

Second Semester				
	ME 304	Fluid Mechanics (3-0-3)		
	ME 312	Thermodynamics II (3-0-3)		
	ME 316	Machine Design (3-0-3)		
	ME 343	Mechanical Laboratory I (2-2-3)		
	ME 430	Introduction to Computer-Aided Design (2-2-3)		
Fifth Year				
First Semester				
	ME 403	Mechanical System Design I (2-1-3)		
	ME 405	Mechanical Laboratory II (1-2-2)		
	ME 407	Heat Transfer (3-0-3)		
	Elective	Open GUR (3-0-3)		
	Elective	ME/TE (3-0-3)		
	Elective	ME/TE (3-0-3)		
Second Semester				
	ME 406	Mechanical Laboratory III (1-2-2)		
	ME 408	Mechanical Systems Design II (1-2-2)		
	Elective	ME/TE (3-0-3)		
	Elective	ME/TE (3-0-3)		
	Elective	Management: GUR (3-0-3)		
	Elective	Capstone Seminar: GUR (3-0-3)		