Engineering Science- Robotics Specialization Curriculum

Level	Freshman Year						
Semester	Fall Term				Spring Term		
	Course Code	Description	Units		Course Code	Description	Units
	CHE201	General Chemistry	1		MAT128	Calculus B	1
	MAT127	Calculus A	1		PHY202	General Physics II	1
	PHY201	General Physics I	1		College Core I	Literary, Visual or Performing Arts	1
	FYS	First Year Seminar	1		CSC220	Computer Science	1
	ENG144	Fundamentals of Engineering Design	0.5		ENG145	Introduction to Engineering Science and Design	0.5
	ENG095	Introduction to Engineering	0				
		Total	4.5			Total	4.5

Level	Sophomore Year						
Semester	Fall				Spring		
	Course Code	Description	Units		Course Code	Description	Units
	ENG212	Circuit Analysis	1		MAT229	Multivariable Calculus	1
	CSC230	Computer Science II	1		MEC251	Strength of Materials	1
	ENG232	Manufacturing Processes	1		ENG262	Dynamics	1
	ENG272	Advanced Engineering Mathematics I	1		CSC270	Discrete Structures	1
	ENG222	Statics	1		ENG214	Circuit Analysis Laboratory	0.5
		Total	5			Total	4.5

Level	Junior Year						
Semester	Fall				Spring		
	Course Code	Description	Units		Course Code	Description	Units
	ENG312	Digital Circuits and Microprocessors	1		ELC321	Signals and Systems	1
	MEC311	Mechanical Design Analysis I	1		ELC251	Electronics	1
	ENG342	Advanced Engineering Mathematics II	1		MEC381	Introduction to Mechatronics	1
	ENG093	Engineering Seminar III	0		ENG348	Systems Engineering and Economy	1
	ECO101 or 102	Principles of Micro or Macro-Economics	1		ENG352	Control Systems	1
					ENG094	Engineering Seminar IV	0
		Total	4			Total	5

Level	Senior Year						
Semester	Fall				Spring		
	Course Code	Description	Units		Course Code	Description	Units
	Technical Elective I	Intelligent Systems	1		IDS252	Society Ethics and Technology	1
	MEC483	Robotics	1		College Core II	Social Justice/Multidisciplinary Perspectives	1
	ELC495/MEC495	Senior Design Project I	0.5		ELC496/MEC496	Senior Design Project II	0.5
	College Core II	Historical Perspective	1		College Core IV	Social Justice/Multidisciplinary Perspectives	1
	ENG354	Control Systems Laboratory	0.5		Technical Elective II	Electrical or Computer or Mechanical Engineering	1
	ENG099	Senior Profesional Seminar	0				
		Total	4			Total	4.5
						Total	36

Technical Electives-Electrical Engineering		Preq	Computer Engineering		Preq
ELC341	Communication Systems	ELC251, ELC	ELC451	Computer Architecture	ENG312
ELC383	Electronics II	ELC251	ELC470	Special Topics in ELC (By advisement)	
ELC411	Embedded Systems	ENG312, EL	ELC411	Embedded Systems	ENG312 ELC251
ELC423	Digital Signal Processing	ENG312, EL	ELC423	Digital Signal Processing	ENG312 ELC321
ELC480	Digital Video Processing and Compression	CSC220, EL	ELC480	Digital Video Processing and Compression	CSC220 ELC321
Technical Electives-Mechanical Engineering			**Intelligent Systems**		
MEC421	Kinematics and Mechanism	CSC217, EN	CSC380	Artificial Intelligence	CSC230, CSC270, MAT127
MEC431	Mechanical Design Analysis II	MEC311	CSC426	Machine Learning	CSC230, CSC270, MAT127
MEC460	Finite Elements in Mechanical Design	MEC311, M	CSC355	Human Computer Interaction	CSC230, CSC270, MAT127
MEC470	Special Topics in Mechanical Engineering	ENG212, EN	ELC435	Artificial Neural Networks	ENG312, ELC321, MAT229

Legend
Maths and Science Core
Engineering Science Core
General Engineering
Computer Science Core
Others