

## C) Program Study Plan for Power and Control Systems Concentration

Semester 1			
Course no.	Course title	Credits	Prerequisite(s)
GENG 131	Advanced English Language Skills and Critical Thinking	None	3-0-3
GMTH 181E	Pre-Calculus for Engineering	None	3-0-3
GCS 182	Principles of Computing, Data and Algorithms	None	2-2-3
GPHY 171	Foundation in Physics	None	2-2-3
CHEM 113L	Principles of Chemistry	None	2-3-3
<b>TOTAL</b>		<b>15</b>	
Semester 2			
Course no.	Course title	Credits	Prerequisite(s)
Choice	English Language II	GENG 131	3-0-3
GSTA 181	Introductory Statistics	None	3-0-3
ECE 106L	Introduction to ECE	None	1-2-2
ECE 102L	Programming I	GCS 182	2-3-3
MATH 101	Calculus for Engineers I	GMTH 181E	3-0-3
PHYS 113L	Principles of Electricity and Magnetism	GPHY 171	2-3-3
<b>TOTAL</b>		<b>17</b>	
Semester 3			
Course no.	Course title	Credits	Prerequisite(s)
GISL 121	Islam and Civil Society	None	3-0-3
ECE 109L	Programming II	ECE 102L	2-2-3
ECE 202L	Electric Circuits Analysis I	PHYS113L	3-2-4
ECE 251L	Digital Logic Design	ECE 106L	3-2-4
MATH 201	Calculus for Engineers II	MATH 101	3-0-3
<b>TOTAL</b>		<b>17</b>	
Semester 4			
Course no.	Course title	Credits	Prerequisite(s)
ECE 203	Electric Circuits Analysis II	ECE 202L	3-0-3
ECE 210L	Electronics I	ECE 202L	3-2-4
ECE 254L	Microprocessor Systems	ECE 251L	2-2-3
MATH 202	Calculus for Engineers III	MATH 201	3-0-3
MATH 225	Differential Equations	MATH 201	3-0-3
<b>TOTAL</b>		<b>16</b>	
Semester 5			
Course no.	Course title	Credits	Prerequisite(s)
GSEM 100	Research Seminar	None	1-2-2
ECE 205	Signals and systems	ECE 202L and MATH 225	3-0-3
ECE 213L	Electronics II	ECE 210L	2-3-3
MATH 307	Linear Algebra	GSTA 181, MATH 201	3-0-3
STAT 321	Probabilistic Methods in Engineering	GSTA 181 and MATH 202	3-0-3
<b>TOTAL</b>		<b>14</b>	
Semester 6			
Course no.	Course title	Credits	Prerequisite(s)
Choice	Creative Arts and Cultural Studies	None	3-0-3
GSEM 201	Research and Innovation and Intellectual Property	GSEM 100	3-0-3
ECE 320L	Communication Systems	ECE 205	2-3-3
ECE 342L	Analog Control Systems	ECE 205	2-2-3
ECE 356	Computer Organization and Architecture	ECE 254L	3-0-3
<b>TOTAL</b>		<b>15</b>	

Summer 1			
Course no.	Course title	Credits	Prerequisite(s)
ECE 388	Summer Internship I	Department approval and Completion of 65 Credit Hours	0-0-2
<b>TOTAL</b>		<b>2</b>	
Semester 7			
Course no.	Course title	Credits	Prerequisite(s)
Choice	Arabic Language	None	3-0-3
ECE 333	Computer Organization and Architecture	GSTA 181 and ECE102L	2-2-3
	Introduction to Artificial Intelligence	PHYS 113L and ECE 210L	2-2-3
ECE 362L	Basic Electrical Machines and Transformers	MATH 307	2-2-3
ECE 370L	Introduction to Electromagnetic Fields	MATH 201	3-0-3
<b>MATH 203</b>		<b>15</b>	
Semester 8			
Course no.	Course title	Credits	Prerequisite(s)
Choice	Social Structure and Global Awareness		3-0-3
ECE 323	Engineering Economics	GSTA 181	3-0-3
ECE 363L	Digital Signal Processing	ECE 205	2-2-3
ECE 460	Power Systems Analysis	ECE 362L	3-0-3
MATH 310	Numerical Analysis	MATH 201 and (CS 1131 or ECE102L)	3-0-3
<b>TOTAL</b>		<b>15</b>	
Summer 2			
Course no.	Course title	Credits	Prerequisite(s)
ECE 488	Summer Internship II	ECE 388 and Dept. approval	0-0-2
<b>TOTAL</b>		<b>2</b>	
Semester 9			
Course no.	Course title	Credits	Prerequisite(s)
Choice	Social Structure and Global Awareness	None	3-0-3
Choice	Foreign Languages and Communication		1-2-2
ECE 491	ECE Capstone Design Project 1	Senior standing and Dept. approval	1-2-2
	Power and Control Systems Concentration Elective 1		3
	Power and Control Systems Concentration Elective 2		3
<b>TOTAL</b>		<b>13</b>	
Semester 10			
Course no.	Course title	Credits	Prerequisite(s)
	Foreign Languages and Communication	None	1-2-2
ECE 492	ECE Capstone Design Project II	ECE 491	1-2-2
	Power and Control Systems Concentration Elective 3		3
	Power and Control Systems Concentration Elective 4		3
	Power and Control Systems Concentration Elective 5		3
<b>TOTAL</b>		<b>13</b>	