Nile Higher Institute For Engineering & Technology

Communication & Electronics Engineering Program

Program Flight Plan 2020-2021

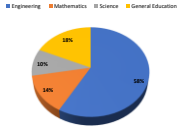
Index	Code	Class Name	No. Credit Hours	Engineering	Mathematics	Science	General Education
Fall: Semester #1							
1	HUM 012	English Language (1)	2	-	-	-	2
2	BAS 011	Mathematics (1)	3	-	3	-	-
3	BAS 021	Physics (1)	3	-	-	3	-
4	BAS 041	Engineering Chemistry	3	-	-	3	-
5	BAS 031	Mechanics	4	-	1	3	-
6		General Requirements (Elective - A)	2	-	-	-	2
Spring: Semester#2							
7	HUM 013	English Language (2)	2	-	-	-	2
8	BAS 012	Mathematics (2)	3	-	3	-	-
9	BAS 022	Physics (2)	3	-	-	3	-
10	HUM 011	Arabic Language	2	-	-	-	2
11	HUM 081	Computer Skills	0	-	-	-	0
12	MED 021	History of Engineering & Technology	1	-	-	-	1
13	MED 022	Principles of manufacturing engineering	2	1	-	1	-
14	MED 011	Engineering drawing & Projection	3	2	-	1	-
Fall: Semester #3							
15	ELP 112	Electrical Measurements and Testing	3	3	-	-	-
16		Institute Requirements (Elective A)	2	2	-	-	-
17	BAS 11	Mathematics (3)	3	-	3	-	-
18	ELP 115	Electrical Material	3	1	-	2	-
19	ELC 221	Computer Programming	3	3	-	-	-
20		General Requirements (Elective - A)	2	-	-	-	2
21	IEN 131	Monitoring & Quality Control Systems	1	-	-	-	1
Spring: Semester #4							
22		Institute Requirements (Elective A)	2	2	-	-	-
23	BAS 211	Mathematics (4)	3	-	3	-	-
24	ELP 113	Electrical Circuits (1)	2	2	-	-	-
25		Institute Requirements (Elective A)	2	2	-	-	-
26	HUM 182	Analysis & Research Skills	2	-	-	-	2
27	BAS 212	Statistics & Probability Theory	3	-	3	-	-
28		General Requirements (Elective - B)	2	-	-	-	2
Fall: Semester #5							
29	ELP 114	Electrical Circuits (2)	2	2	-	-	-
30	ELC 311	Computer Organization & Architecture	3	3	-	-	-
31	ELC 331	Computer Networks	3	3	-	-	-
32	ELC 251	Modeling & Simulation of Engineering	3	2	1	-	-
33	BAS 311	Mathematics (5)	3	-	3	-	-
34	HUM 111	Technical Report Writing	2	-	-	-	2
35	HUM 381	Principles of Negotiation	2	-	-	-	2
Spring: Semester #6							
36	ELP 181	Energy Conversion	3	3	-	-	-
37	ELE 222	Electronic Devices	3	3	-	-	-
38	ELE 221	Digital & Logic Circuits	3	3	-	-	-
39	ELE 271	Signal Analysis	3	2	1	-	-
40	ELP 141	Electromagnetic Fields	3	2	1	-	-
41	HUM 181	Communication & Presentation Skills	2	-	-	-	2
Summer: Semester #7							
42	291	Field Training 1	1	1	-	-	-
Fall: Semester #8							
43	IEN 351	Economics Engineering	2	2	-	-	-
44	ELE 321	Electronic Circuits	3	3	-	-	-
45	ELP 361	Power Electronics	3	3	-	-	-
46	ELP 241	Electrical Machines & Transformers	3	3	-	-	-
47	ELE 241	Microprocessors & Applications	3	3	-	-	-
48		General Requirements (Elective - A)	2	-	-	-	2
49	CIW 331	Environmental Impact of Projects	1	-	-	-	1
Spring: Semester #9							
50	IEN 314	Project Management	2	1	-	-	1
51	HUM 391	Professional Ethics	1	-	-	-	1
52	ELE 322	Electronics Engineering	3	3	-	-	-
53		General Requirements (Elective - A)	2	-	-	-	2
54	ELE 361	Electrical Communications	3	2	1	-	-
55	ELP 321	Electrical Power	3	3	-	-	-
56	ELC 361	Automatic Control Systems	3	3	-	-	-
Summer: Semester #10							
57	391	Field Training 2	1	1	-	-	-
Fall: Semester #11							
58	ELE 461	Antenna & Wave Propagation	3	3	-	-	-
59	ELE 471	Digital Signal Processing	3	3	-	-	-
60	ELE 462	Digital Communication Systems	3	3	-	-	-
61	ELE 491	Project #1	2	2	-	-	-
62		Minor Requirements (Elective - A)	3	3	-	-	-
63	HUM 101	Human Rights	1	-	-	-	1
Spring: Semester #12							
64	ELE 463	Mobile Communications	3	3	-	-	-
65		Minor Requirements (Elective - A)	3	3	-	-	-
66	ELE 411	Integrated Circuits Design	3	3	-	-	-
67	ELE 492	Project #2	4	4	-	-	-
Total			**165**	**96**	**23**	**16**	**30**
					39		

Index	Code	Class Name	No. Credit Hours	Engineering	Mathematics	Science	General Education
Elective Courses	ELE 464	Information & Coding Theory	3	3	-	-	-
	ELE 467	Satellite Communications	3	3	-	-	-
	ELP 111	Principles of Electrical Engineering	2	2	-	-	-
	ELE 121	Principles of Electronic Engineering	2	2	-	-	-
	ELE 465	Optical Communications	3	3	-	-	-

Outcome: *Your Students Must Be Able To*

1. Eng. Problem Solving	2. Eng. Design	3. Communication Effectively	4. Ethics and Prof.	5. Teams (Roles)	6. Develop and Conduct	7. Learning strategies
		x				
x						
x					x	
x	x				x	
x						
		x				
x						
x					x	
		x		x		
x	x					
x						
x		x	x		x	
x		x		x	x	
		x				
x						
x						
		x				
x		x				
x		x		x	x	
x		x		x	x	
x		x		x	x	
		x		x		
x		x	x	x	x	
x		x				
x	x	x			x	
x		x		x	x	
x		x		x	x	
x				x	x	x
x		x	x			
		x	x			
x	x	x		x		
x		x	x	x	x	
x		x			x	
x		x		x	x	
x		x		x	x	
x	x	x	x	x	x	
		x	x			
x			x			
x	x	x	x			
x	x					x
x		x				
x	x					
x	x					
x	x	x	x			

Communication Program Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Communication Flight plan summary