



Study Plan
Bachelor of Science in Computer Engineering (CE)
(Option 1: COOP)
Department of Computer Science and Engineering (CSE)
Yanbu Industrial College

1st Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	101	English Composition	3	0	3	None	None
MATH	101	Calculus I	4	0	4	None	None
PHYS	101	General Physics I	3	3	4	MATH 101	None
CS	101	Computer Programming	2	3	3	MATH 101	None
ISLM	101	Islamic Ideology	2	0	2	None	None
PE	101	Physical Education I	0	2	1	None	None
Total			14	8	17		
2nd Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MATH	201	Calculus III	4	0	4	None	MATH 102
CS	201	Digital Logic	3	3	4	None	CS 101
CSE	251	Electrical Circuit Analysis	3	3	4	None	MATH 101; PHYS 101
CS	202	Discrete Mathematics	4	0	4	None	MATH 101
ISLM	201	Human Rights In Islam	2	0	2	None	ISLM 101
Total			16	6	18		
3rd Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	331	Professional Communication	3	0	3	None	ENGL 131
CS	311	Database Systems	2	3	3	None	CS 204
CS	480	Operating Systems	3	3	4	None	CS 203; CS 204
CSE	351	Signals and Systems	2	3	3	None	MATH 204
CSE	361	Introduction to Computer Networks	3	0	3	None	CS 201
ISLM	301	Works Ethics in Islam	2	0	2	None	ISLM 201
Total			15	9	18		
3rd Year / Summer Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CSE	492	Begin COOP Work	x	x	0	None	Senior Standing
Total			x	x	0		
4th Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CSE	493	COOP	x	x	9	None	CSE492
Total			x	x	9		
Total Credits required to complete the program: 134							
Network and Security (Track Core Courses)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
NET	362	Computer Networks I	3	3	4	None	CSE 361
NET	363	Information and Computer Security	3	0	3	None	CSE 361
Network and Security Track Electives (Any One)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
NET	461	Computer Networks II	2	3	3	None	NET 362
NET	462	Network Management	2	3	3	None	NET 362
NET	463	Network Security	2	3	3	NET 461	NET 362; NET 363
NET	464	Wireless Networking	2	3	3	None	NET 362; NET 363
NET	465	IP Telephony	2	3	3	None	NET 362
NET	466	Server Networks	2	3	3	None	NET 362; NET 363
NET	467	Fundamentals of Information Management	3	0	3	None	NET 362; NET 363
NET	468	Storage Networking	2	3	3	None	NET 362; NET 363
General Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
GE	401	Engineering Economics	2	0	2	None	Senior Standing
GE	402	Computing Ethics	2	0	2	None	Senior Standing
GE	403	Project Management	2	0	2	None	Senior Standing
XE	452	Global Issues in ICT	2	0	2	None	Senior Standing

1st Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	131	Academic Writing Skills	3	0	3	None	ENGL 101
MATH	102	Calculus II	4	0	4	None	MATH 101
PHYS	102	General Physics II	3	3	4	MATH 102	PHYS 101
CS	102	Object Oriented Programing	3	3	4	None	CS 101
ARAB	101	Functional Grammar	2	0	2	None	None
PE	102	Physical Education II	0	2	1	None	PE 101
Total			15	8	18		
2nd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	204	Data Structures	3	3	4	None	CS 102
ARAB	201	Objective Writing	2	0	2	None	ARAB 101
MATH	204	Linear Algebra & Differential Equation	4	0	4	None	MATH 201
CS	203	Computer Organization & Assembly Language	3	3	4	None	CS 102; CS 201
CSE	252	Electronics	3	3	4	MATH 204	CSE 251
Total			15	9	18		
3rd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	332	Technical writing	3	0	3	None	ENGL 131
CSE	371	Introduction to Real Time Embedded Systems	3	3	4	None	CS 203
CSE/ NET	3XX	Track Core I	x	x	4	None	
CSE/ NET	3XX	Track Core II	x	x	3	None	
CSE	354	Principles of VLSI Design	1	3	2	None	CSE 252
ARAB	301	Arab Communication	2	0	2	None	ARAB 201
Total			9	6	18		
4th Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CSE	401	Systems Engineering	3	0	3	None	CS 480
STAT	410	Probability and Statistics	3	3	4	None	MATH 102
CS	301	Computer Architecture	3	0	3	None	CS 203
CSE	471	Microcomputer Interfacing and Data Acquisition	2	3	3	None	CS 203; CSE 252
GE	4XX	General Elective	2	0	2	None	
CSE/ NET	4XX	Track Elective I	x	x	3	None	
Total			13	6	18		

المملكة العربية السعودية

Ministry of Education

الهيئة العامة للتعليم التطبيقي والتدريب

General Directorate of Applied and Vocational Education

Yanbu Industrial College

الهيئة الملكية ببنينج

Royal Commission At Yanbu

كلية ببنج الصناعية

Yanbu Industrial College

Note: Senior Standing - Minimum completion of 100 Credits

Note: Senior Standing - Minimum completion of 100 Credits





Study Plan
Bachelor of Science in Computer Engineering (CE)
(Option 2: Senior Design Project)
Department of Computer Science and Engineering (CSE)
Yanbu Industrial College

1st Year / 1st Semester								1st Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	101	English Composition	3	0	3	None	None	ENGL	131	Academic Writing Skills	3	0	3	None	ENGL 101
MATH	101	Calculus I	4	0	4	None	None	MATH	102	Calculus II	4	0	4	None	MATH 101
PHYS	101	General Physics I	3	3	4	MATH 101	None	PHYS	102	General Physics II	3	3	4	MATH 102	PHYS 101
CS	101	Computer Programming	2	3	3	MATH 101	None	CS	102	Object Oriented Programing	3	3	4	None	CS 101
ISLM	101	Islamic Ideology	2	0	2	None	None	ARAB	101	Functional Grammar	2	0	2	None	None
PE	101	Physical Education I	0	2	1	None	None	PE	102	Physical Education II	0	2	1	None	PE 101
Total			14	8	17			Total			15	8	18		
2nd Year / 1st Semester								2nd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MATH	201	Calculus III	4	0	4	None	MATH 102	CS	204	Data Structures	3	3	4	None	CS 102
CS	201	Digital Logic	3	3	4	None	CS 101	ARAB	201	Objective Writing	2	0	2	None	ARAB 101
CSE	251	Electrical Circuit Analysis	3	3	4	None	MATH 101; PHYS 101	MATH	204	Linear Algebra & Differential Equation	4	0	4	None	MATH 201
CS	202	Discrete Mathematics	4	0	4	None	MATH 101	CS	203	Computer Organization & Assembly Language	3	3	4	None	CS 102; CS 201
ISLM	201	Human Rights In Islam	2	0	2	None	ISLM 101	CSE	252	Electronics	3	3	4	MATH 204	CSE 251
Total			16	6	18			Total			15	9	18		
3rd Year / 1st Semester								3rd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ENGL	331	Professional Communication	3	0	3	None	ENGL 131	ARAB	301	Arab Communication	2	0	2	None	ARAB 201
CS	311	Database Systems	2	3	3	None	CS 204	CSE	371	Introduction to Real Time Embedded Systems	3	3	4	None	CS 203
CS	480	Operating Systems	3	3	4	None	CS 203; CS 204	CSE/ NET	3XX	Track Core I	x	x	4	None	
CSE	351	Signals and Systems	2	3	3	None	MATH 204	CSE/ NET	3XX	Track Core II	x	x	3	None	
CSE	361	Introduction to Computer Networks	3	0	3	None	CS 201	CSE	354	Principles of VLSI Design	1	3	2	None	CSE 252
Total			13	9	16			Total			6	6	15		
4th Year / 1st Semester								4th Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CSE	441	Senior Design Project I	0	6	2	None	Senior Standing	CSE	442	Senior Design Project II	0	6	2	None	CSE 441
STAT	410	Probability and Statistics	3	3	4	None	MATH 102	CSE	401	Systems Engineering	3	0	3	None	CS 480
CS	301	Computer Architecture	3	0	3	None	CS 203	ISLM	301	Works Ethics in Islam	2	0	2	None	ISLM 201
ENGL	332	Technical writing	3	0	3	None	ENGL 131	CSE	471	Microcomputer Interfacing and Data Acquisition	2	3	3	None	CS 203; CSE 252
CSE/ NET	4XX	Track Elective I	x	x	3	None		GE	4XX	General Elective	2	0	2	None	
Total			9	9	15			CSE/ NET	4XX	Track Elective II	x	x	3	None	
Total			9	9	15			Total			9	9	15		
Total Credits required to complete the program: 132															
Network and Security (Track Core Courses)								Digital Systems (Track Core Courses)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
NET	362	Computer Networks I	3	3	4	None	CSE 361	CSE	352	Digital Signal Processing	3	3	4	None	CSE 351
NET	363	Information and Computer Security	3	0	3	None	CSE 361	CSE	353	Digital System Design	2	3	3	None	CS 203
Network and Security Track Electives (Any One)								Digital Systems Track Electives (Any One)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite	Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
NET	461	Computer Networks II	2	3	3	None	NET 362	CSE	451	Digital Image Processing	2	3	3	None	CSE 352
NET	462	Network Management	2	3	3	None	NET 362	CSE	452	Digital Communication	3	0	3	None	CSE 352
NET	463	Network Security	2	3	3	NET 461	NET 362; NET 363	CSE	453	Mobile Communication	3	0	3	None	CSE 352
NET	464	Wireless Networking	2	3	3	None	NET 362; NET 363	CSE	454	LTE Communication	3	0	3	None	CSE 453
NET	465	IP Telephony	2	3	3	None	NET 362	CSE	455	Advanced Digital System Design	2	3	3	None	CSE 353
NET	466	Server Networks	2	3	3	None	NET 362; NET 363	CSE	456	Real-Time Systems	3	0	3	None	CSE 371
NET	467	Fundamentals of Information Management	3	0	3	None	NET 362; NET 363	CSE	457	Connected Embedded Systems Architecture	3	0	3	None	CSE 371
NET	468	Storage Networking	2	3	3	None	NET 362; NET 363								
General Electives (Any ONE)															
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite								
GE	401	Engineering Economics	2	0	2	None	Senior Standing								
GE	402	Computing Ethics	2	0	2	None	Senior Standing								
GE	403	Project Management	2	0	2	None	Senior Standing								
XE	452	Global Issues in ICT	2	0	2	None	Senior Standing								
Note: Senior Standing - Minimum completion of 100 Credits															

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