



Study Plan
Bachelor of Science in Computer Science (CS)
(Option 1: Senior Project)
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
CS	202	Discrete Mathematics	4	0	4	None	MATH 101
CS	201	Digital Logic	3	3	4	None	CS 101
CS	204	Data Structures	3	3	4	None	CS 102
MATH	204	Linear Algebra & Differential Equation	4	0	4	None	MATH 102
ARAB	201	Objective Writing	2	0	2	None	ARAB 101
Total			16	6	18		

3rd Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ARAB	301	Arabic Communication	2	0	2	None	ARAB 201
CSE	361	Introduction to Computer Networks	3	0	3	None	CS 201
CS	378	Introduction to Web Development	2	3	3	None	CS 311
CS	379	Software and Interface Design	2	3	3	None	CS 277
STAT	410	Probability & Statistics	4	0	4	None	MATH 102
Total			13	6	15		

3rd Year / Summer Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	494/X	Summer Training/ Free Electives	x	x	3	None	Senior Standing
Total			x	x	3		

4th Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	496	Senior Project I	0	6	2	None	Senior Standing
NET	363	Information & Computer security	3	0	3	None	CSE 361
CS	xxx	Track Elective III	x	x	3	None	
CS	302	Design & Analysis of Algorithms	3	0	3	None	CS 204
CS	480	Operating Systems	3	3	4	None	CS 203; CS 204
Total			9	9	15		

Total Credits required to complete the program: 134

Web Engineering Track Electives							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	381	Web Application Development	2	3	3	None	CS 378; CS 379
CS	382	Object Oriented Web App Development	2	3	3	None	CS 378; CS 379
CS	383	Enterprise Web Application Development	2	3	3	None	CS 381; CS 382

Free Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MGT	211	Principles of Management	3	0	3	None	Senior Standing
SOSC	101	Behavioral Science Business	3	0	3	None	Senior Standing
MKT	211	Principles of Marketing	3	0	3	None	Senior Standing
MIS	203	Principles of MIS	2	3	3	None	Senior Standing

Math / Science Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MATH	401	Operational Research Techniques	3	0	3	None	Senior Standing
MATH	402	Modeling & Simulation	3	0	3	None	Senior Standing
MATH	403	Theory of computation	3	0	3	None	Senior Standing
MATH	203	Finite Mathematics	3	0	3	None	Senior Standing
MATH	201	Calculus III	4	0	4	None	MATH 102

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 Programming	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	203	Computer Organization & Assembly Language	3	3	4	None	CS 201; CS 102
CS	311	Database Systems	2	3	3	None	CS 204
CS	277	Principles of Software Engineering	3	0	3	None	CS 204
ISLM	201	Human Rights in Islam	2	0	2	None	ISLM 101
MATH	206	Numerical Analysis	3	0	3	None	MATH 204
ENGL	331	Professional communication	3	0	3	None	ENGL 131
Total			16	6	18		

3rd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	331	Artificial Intelligence	2	3	3	None	CS 202; STAT 410
CS	xxx	Track Elective I	x	x	3	None	
CS	xxx	Track Elective II	x	x	3	None	
CS	360	Programming Languages	2	3	3	None	CS 102
ENGL	332	Technical writing	3	0	3	None	ENGL 131
Total			7	6	15		

4th Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	497	Senior Project II	0	6	2	None	CS 496
CS	401	Computer Architecture & Parallel Computing	3	0	3	None	CS 203
ISLM	301	Work Ethics In Islam	2	0	2	None	ISLM 201
GE	xxx	General Elective	2	0	2		
CS/CSE	xxx	Department Elective	x	x	3		
MATH	xxx/X	MATH / Science Elective	x	x	3		
Total			7	6	15		

Mobile Computing Track Electives							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	385	Mobile Application Development I	2	3	3	None	CS 378; CS 379
CS	386	Introduction to developing Hybrid Web Mobile Applications	2	2	3	None	CS 378; CS 379
CS	387	Mobile Application Development II	2	3	3	None	CS 385; CS 386

Department Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	376	Computer Graphics	3	0	3	None	MATH 204; CS 102
CS	471	Special Topics in Computer Science 1	3	0	3	None	Senior Standing
CS	472	Special Topics in Computer Science 2	3	0	3	None	Senior Standing
CS	411	Advance Database	3	0	3	None	CS 311
CS	473	Software Requirement Engineering	3	0	3	None	CS 277
CSE	353	Digital System Design	2	3	3	None	CS 203

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





Study Plan
Bachelor of Science in Computer Science (CS)
(Option 2: 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
CS	202	Discrete Mathematics	4	0	4	None	MATH 101
CS	201	Digital Logic	3	3	4	None	CS 101
CS	204	Data Structures	3	3	4	None	CS 102
MATH	204	Linear Algebra & Differential Equation	4	0	4	None	MATH 102
ARAB	201	Objective Writing	2	0	2	None	ARAB 101
Total			16	6	18		
3rd Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ARAB	301	Arabic Communication	2	0	2	None	ARAB 201
CSE	361	Introduction to Computer Networks	3	0	3	None	CS 201
CS	378	Introduction to Web Development	2	3	3	None	CS 311
CS	360	Programming Languages	2	3	3	None	CS 102
CS	379	Software and Interface Design	2	3	3	None	CS 277
STAT	410	Probability & Statistics	4	0	4	None	MATH 102
Total			15	9	18		
3rd Year / Summer Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	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
CS	493	COOP	x	x	9	None	CS492
Total			x	x	9		
Total Credits required to complete the program: 134							
Web Engineering Track Electives				Mobile Computing Track Electives			
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	381	Web Application Development	2	3	3	None	CS 378; CS 379
CS	382	Object Oriented Web App Development	2	3	3	None	CS 378; CS 379
CS	383	Enterprise Web Application Development	2	3	3	None	CS 381; CS 382
Math / Science Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MATH	401	Operational Research Techniques	3	0	3	None	Senior Standing
MATH	402	Modeling & Simulation	3	0	3	None	Senior Standing
MATH	403	Theory of computation	3	0	3	None	Senior Standing
MATH	203	Finite Mathematics	3	0	3	None	Senior Standing
MATH	201	Calculus III	4	0	4	None	MATH 102
Department Electives (Any ONE)				Department Electives (Any ONE)			
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	376	Computer Graphics	3	0	3	None	MATH 204; CS 102
CS	471	Special Topics in Computer Science 1	3	0	3	None	Senior Standing
CS	472	Special Topics in Computer Science 2	3	0	3	None	Senior Standing
CS	411	Advance Database	3	0	3	None	CS 311
CS	473	Software Requirement Engineering	3	0	3	None	CS 277
CSE	353	Digital System Design	2	3	3	None	CS 203
Note: Senior Standing - Minimum completion of 100 Credits							

Note: Senior Standing - Minimum completion of 100 Credits



الهيئة الملكية بنبع
Royal Commission At Yanbu
كلية بنبع الصناعية
Yanbu Industrial College



Study Plan
Bachelor of Science in Computer Science (CS)
(Option 3: COOP & CourseWork)
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
CS	202	Discrete Mathematics	4	0	4	None	MATH 101
CS	201	Digital Logic	3	3	4	None	CS 101
CS	204	Data Structures	3	3	4	None	CS 102
MATH	204	Linear Algebra & Differential Equation	4	0	4	None	MATH 102
ARAB	201	Objective Writing	2	0	2	None	ARAB 101
Total			16	6	18		
3rd Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
ARAB	301	Arabic Communication	2	0	2	None	ARAB 201
CSE	361	Introduction to Computer Networks	3	0	3	None	CS 201
CS	378	Introduction to Web Development	2	3	3	None	CS 311
CS	360	Programming Languages	2	3	3	None	CS 102
CS	379	Software and Interface Design	2	3	3	None	CS 277
STAT	410	Probability & Statistics	4	0	4	None	MATH 102
Total			15	9	18		
3rd Year / Summer Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
xx	xxx	Free Elective	x	x	3	None	Senior Standing
Total			x	x	3		
4th Year / 1st Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	495	COOP I	x	x	6	None	Senior Standing
Total			x	x	6		

Total Credits required to complete the program: 134

Web Engineering Track Electives							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	381	Web Application Development	2	3	3	None	CS 378; CS 379
CS	382	Object Oriented Web App Development	2	3	3	None	CS 378; CS 379
CS	383	Enterprise Web Application Development	2	3	3	None	CS 381; CS 382
Math / Science Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MATH	401	Operational Research Techniques	3	0	3	None	Senior Standing
MATH	402	Modeling & Simulation	3	0	3	None	Senior Standing
MATH	403	Theory of computation	3	0	3	None	Senior Standing
MATH	203	Finite Mathematics	3	0	3	None	Senior Standing
MATH	201	Calculus III	4	0	4	None	MATH 102
Free Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
MGT	211	Principles of Management	3	0	3	None	Senior Standing
SOSC	101	Behavioral Science Business	3	0	3	None	Senior Standing
MKT	211	Principles of Marketing	3	0	3	None	Senior Standing
MIS	203	Principles of MIS	2	3	3	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 Programming	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	203	Computer Organization & Assembly Language	3	3	4	None	CS 201; CS 102
CS	311	Database Systems	2	3	3	None	CS 204
CS	277	Principles of Software Engineering	3	0	3	None	CS 204
ISLM	201	Human Rights in Islam	2	0	2	None	ISLM 101
MATH	206	Numerical Analysis	3	0	3	None	MATH 204
ENGL	331	Professional communication	3	0	3	None	ENGL 131
Total			16	6	18		
3rd Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	331	Artificial Intelligence	2	3	3	None	CS 202; STAT 410
CS	xxx	Track Elective I	x	x	3	None	
CS	xxx	Track Elective II	x	x	3	None	
CS	302	Design & Analysis of Algorithms	3	0	3	None	CS 204
NET	363	Information & Computer security	3	0	3	None	CSE 361
ENGL	332	Technical writing	3	0	3	None	ENGL 131
Total			11	3	18		
4th Year / 2nd Semester							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	401	Computer Architecture & Parallel Computing	3	0	3	None	CS 203
CS	480	Operating Systems Computing	3	3	4	None	CS 203; CS 204
ISLM	301	Work Ethics In Islam	2	0	2	None	ISLM 201
CS	xxx	Track Elective III	x	x	3	None	
CS/CSE	xxx	Department Elective	x	x	3	None	
MATH	xxx/X	MATH / Science Elective	x	x	3	None	
Total			8	3	18		

Mobile Computing Track Electives							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	385	Mobile Application Development I	2	3	3	None	CS 378; CS 379
CS	386	Introduction to developing Hybrid Web Mobile Applications	2	2	3	None	CS 378; CS 379
CS	387	Mobile Application Development II	2	3	3	None	CS 385; CS 386
Department Electives (Any ONE)							
Course	Code	Course Title	TH	LH	CH	Co- requisite	Pre-requisite
CS	376	Computer Graphics	3	0	3	None	MATH 204; CS 102
CS	471	Special Topics in Computer Science 1	3	0	3	None	Senior Standing
CS	472	Special Topics in Computer Science 2	3	0	3	None	Senior Standing
CS	411	Advance Database	3	0	3	None	CS 311
CS	473	Software Requirement Engineering	3	0	3	None	CS 277
CSE	353	Digital System Design	2	3	3	None	CS 203

Note: Senior Standing - Minimum completion of 100 Credits

