Navajo Technical University

Name: _____   ID#:_____

Bachelor of Science Degree – Computer Science (122 Credits)

The program is designed to prepare students for careers in the 21st century with the Navajo Nation, state, and federal agencies as well as private companies. Completion of the Computer Science program will enable employment opportunities in public and private sectors in diverse industries related to computing, such as software, automotive, healthcare, and aerospace. Graduates of this program can be employed in positions, such as software system developers, software application developers, software testers, or big data analysts. The program is also designed to provide a foundation to graduates who wish to pursue an advanced degree in Computer Science or related field.

Semester ONE		Credits	Prerequisites	Semester/Transfer	Grade
BCIS 1115	Introduction to Computers	3			
CS 102	Programming I	3	MATH 1220		
CS 102L	Programming I Lab	1			
CS 120	Computational Thinking	3	MATH 1220		
MATH 1510	Calculus I	4	MATH 1230&MATH1240		
SSC100	College Success Skills	1			
Semester TWO					
MATH 1520	Calculus II	4	MATH 1510		
ENGL 1110	Composition I	3	ENGL 100		
CS 150	Programming II	3	CS 102		
NAVA XXX	Dine Studies	3-4			
Semester THREE					
CS 201	Data Structures I	3	CS 150		
CS 175	Introduction to Computer Organization	3	CS 150		
ENGL 1120 or ENGL2120	Composition II or Intermediate Composition	3	ENGL 1210 or 1110		
CS 225	Comparative Programming Languages	3	CS 150		
Semester FOUR					
ENGR 169	Basic Statistics and Probability	3	MATH 1215		
HUMNXXX	Humanities Elective	3			
CS 251	Data Structures II	3	CS 201		
PHYS 1230 or BIOL 1110 or CHEM 1120	Algebra Based Physics I or General Biology or Introduction to Chemistry	4			
Semester FIVE					
ENGR 236	Inferential Engineering Statistics	3	MATH 1510 & ENGR 169		
CS 375	Principles of Computer Architecture	3	CS 175		
CS 300	Computer Networks	3	CS 251		
CFAXXX	Creative Fine Arts Elective	3			
PHYS 1240 or BIOL 2110 or CHEM 1217	Algebra Base Physics II or Principles of Biology: Cellular and Molecular Biology or Principles of Chemistry I	4			
Semester SIX					
CS 380	Principles of Operating Systems	3	CS 375		
MTH 410	Linear Algebra	3	MATH 1520		
MTH 205	Discrete Mathematics	3	MATH 1220		
CS 385 or CS 390	Applied Cryptography or Software Engineering	3	CS 300 or CS 251		
SOCXXX	Social & Behavioral Sciences Elective	3			
Summer					
CS 399	CS Internship	4	Junior Standing		
Semester SEVEN					
CS 400	Parallel and Distributed Computing	3	CS 300		
CS 470	Automata Theory	4	MATH 205, CS 251		
XXX	Social & Behavioral/Humanities Elective	3			
CS 420	Capstone I	3	Senior Standing		
CS 450	Data Science I	3	MATH 410, ENGR 236, CS 251		
Semester EIGHT					
CS 475	Ethics in Data Science	3	CS 450		
CS 480	Algorithms and Complexity	4	MTH 205, CS 251		
CS 421	Capstone II	3	CS 420		

CS 451 or MTH 433	Data Science II or Numerical Analysis with Computers	3	CS 450 or MATH 152, MATH 2410		
CS 495	Topics in Computer Science	3	Senior Standing		
TOTAL CREDIT HOURS		**122-123**			

	Signatures	Date
Student:		
Advisor:		
Registrar:		
Graduation Date:		

UPDATED 6/14/2024