ARKANSAS STATE UNIVERSITY
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

DEGREE AND MAJOR: **M. S., COMPUTER SCIENCE**
EMPHASIS:

NAME: _____
STUDENT ID: _____

CATALOG YEAR: **2019 - 2020**
revised: **01/10/20**

	SEMESTER	GRADE
CORE REQUIREMENTS: 9-21 hours		
Compilers or Automata Theory (one of next two)		
CS 5133: Compilers		
CS 5723: Automata Theory		
Computer Systems (one of next four)		
CS 5313: Computer Networks		
CS 6213: Parallel Processing		
CS 6243: Distributed Systems		
CS 6253: Heterogeneous Computing		
Algorithms (one of next one)		
CS 5713: Analysis of Algorithms		
ELECTIVES : 6-24 hours (Total 33 hrs including core courses)		
Selections may include up to 6 hrs. MATH/STAT, w/ prior approval.		
CS 5113: Software Engineering		
CS 5223: UNIX Systems Programming		
CS 5413: Fundamental Computer Graphics		
CS 5423: Interactive Computer Graphics		
CS 5433: Artificial Intelligence		
CS 5543: Database Systems		
CS 5613: Mobile Application Development		
CS 5623: Fundamentals of Data Science		
CS 5823: Scripting Languages		
CS 583V: Internship (not counted towards degree)		
CS 6123: Software Security		
CS 6223: Advanced Computer Architecture		
CS 6233: Operating System Design		
CS 6263: Cloud Computing		
CS 6313: Data Security		
CS 6323: Computer Security		
CS 6333: Network and Internet Security		
CS 6343: Cloud Security		
CS 6353: Hardware Security		
CS 6413: Solid Modeling		
CS 6423: Robotic Software Control		
CS 6443: Machine Learning		
CS 6463: Image Processing		
CS 6523: Data Mining Techniques		
CS 6543: Adv. Database Systems		
CS 6613: Bioinformatics		
CS 6713: Advanced Analysis of Algorithms		
CS 6723: Computability Theory		
CS 6823: ST - Computer & Network Security		
CS 6823: ST - Operational Research		
CS 6813: Seminar in Computer Science		
CS 688V: Independent Study		
CS 689V: Thesis		

Note:
A minimum of thirty-three hours are required for this degree, eighteen of which must be 6000 level coursework.

UNDERGRADUATE DEFICIENCIES

Required deficiencies bring M. S. candidate to level of B. S. degree graduate.
No 6000-level courses for credit until all deficiencies circled below have been completed.

Computer Science:		
three of next three		
CS 2114: Structured Programming		
CS 2124: OOP & Fund Data Structures		
CS 3113: Algorithms & Adv Data Structures		
or three of next three		
CS 5012: Acc Structured Programming		
CS 5022: Acc OOP & Fund Data Structures		
CS 5032: Acc Algorithms & Adv Data Struct		
and		
CS 3223: Computer Organization		
CS 3233: Operating Systems		
Mathematics and Statistics:		
MATH 2183: Discrete Structures		
MATH 2204: Calculus I		
MATH 2214: Calculus II		
STAT 3233: Applied Statistics I		

GRADUATION CHECK LIST	
Undergraduate deficiencies	
18 hours of 6000 level coursework	
33 hours for degree	
3.00 average overall	
3.00 average in major	
Comprehensive exam	
Emphasis in _____	
(next page for details)	

Current Enrollment:

1 _____
2 _____
3 _____
4 _____

The above named student has met all requirements for graduation providing he/she satisfactorily completes the courses of current enrollment.

Advisor Date

Chair of Computer Science Date

Dean of College of Engineering & Computer Science Date

An emphasis can be added into student's M.S. degree if the requirements for the corresponding emphasis are met.

EMPHASIS IN CYBER SECURITY (12 hours)

Required courses: three of next four

CS 6123: Software Security	_____	_____
CS 6313: Data Security	_____	_____
CS 6323: Computer Security	_____	_____
CS 6333: Network and Internet Security	_____	_____

Elective courses:

CS 6343: Cloud Security	_____	_____
LAW 6033: Cyberlaw and E-Commerce	_____	_____

EMPHASIS IN DATA SCIENCE (12 hours)

Required courses: three of next four

CS 5543: Database Systems	_____	_____
CS 5623: Fundamentals of Data Science	_____	_____
CS 6443: Machine Learning	_____	_____
CS 6523: Data Mining Techniques	_____	_____

Elective courses:

CS 6543: Advanced Database Systems	_____	_____
STAT 6433: Time Series Analysis	_____	_____
STAT 6643: Multivariate Analysis	_____	_____
STAT 6653: Data Analysis I: Regress. Analy.	_____	_____
STAT 6663: Data Analysis II: Analy. of Var.	_____	_____

EMPHASIS IN HIGH PERFORMANCE COMPUTING (12 hours)

Required courses: three of next four

CS 6213: Parallel Processing	_____	_____
CS 6243: Heterogeneous Computing	_____	_____
CS 6253: Distributed Systems	_____	_____
CS 6263: Cloud Computing	_____	_____

Elective courses:

CS 5223: Unix Systems Programming	_____	_____
CS 6223: Advanced Computer Architecture	_____	_____
CS 6233: Operating System Design	_____	_____