Arkansas State University
College of Engineering and Computer Science

Degree and Major: M.S., Computer Science

Emphasis:

Catalog Year: 2019 - 2020
Revised: 06/06/19

Name: __________________________

Student ID: ______________________

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 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

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 ____________

Note:
A minimum of thirty-three hours are required for this degree, eighteen of which must be 6000 level coursework.
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: 9 hours**
- CS 6313: Data Security
- CS 6323: Computer Security
- CS 6333: Network and Internet Security

**Elective courses (one of next three): 3 hours**
- CS 6123: Software Security
- CS 6343: Cloud Security
- LAW 6033: Cyberlaw and E-Commerce

### EMPHASIS IN DATA SCIENCE (12 hours)

**Required courses: 9 hours**
- CS 5543: Database Systems
- CS 5623: Fundamentals of Data Science
- CS 6523: Data Mining Techniques

**Elective courses (one of next six): 3 hours**
- CS 6443: Machine Learning
- CS 6543: Advanced Database Systems
- STAT 6433: Time Series Analysis
- STAT 6643: Multivariate Analysis
- STAT 6663: Data Analysis II: Analy. of Var.

### EMPHASIS IN HIGH PERFORMANCE COMPUTING (12 hours)

**Required courses: 9 hours**
- CS 6213: Parallel Processing
- CS 6243: Heterogeneous Computing
- CS 6253: Distributed Systems

**Elective courses (one of next four): 3 hours**
- CS 5223: Unix Systems Programming
- CS 6223: Advanced Computer Architecture
- CS 6233: Operating System Design
- CS 6263: Cloud Computing