### ARKANSAS STATE UNIVERSITY
### DEGREE AND MAJOR:
### M. S., COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>NAME:</th>
<th>STUDENT ID:</th>
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<th>SEMESTER</th>
<th>GRADE</th>
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### DEPARTMENT: COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

### EMphasis:

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<th>CATALOG YEAR:</th>
<th>2019 - 2020</th>
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### UNDERGRADUATE REQUIREMENTS

**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.

### Note:

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

### Chair of Computer Science

### Date

### Dean of Graduate School

### 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: 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