

**ARKANSAS STATE UNIVERSITY  
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE**

**NAME:** \_\_\_\_\_  
**STUDENT ID:** \_\_\_\_\_

SEMESTER GRADE

**CORE REQUIREMENTS: 9-27 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 two)**

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 \_\_\_\_\_

**Note:**

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

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

**CATALOG YEAR:** **2018 - 2019**  
**revised:** **06/15/18**

**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 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 6653: Data Analysis I: Regress. Analy. | _____ | _____ |
| 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                | _____ | _____ |