

University of Arkansas – Fort Smith
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General Syllabus

CS 4363 Internet of Things Development

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Prerequisite: CS 2003 Data Structures

Effective Catalog: 2020-2021

I. Course Information

A. Catalog Description

The course introduces the design and development of applications and systems for Internet of Things (IoT) devices. Topics will include IoT technology and devices, communication, data storage, application development, machine learning for IoT data, and distributed systems for supporting IoT devices

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Explain concepts of IoT devices and applications.
2. Explain emerging trends in IoT applications and theory.
3. Design and implement IoT devices and applications
4. Utilize communication protocols for IoT devices.
5. Transfer data between IoT devices and distributed system infrastructure.
6. Implement and secure data and communications with IoT devices.
7. Design and implement scalable systems for large IoT deployments.
8. Build, design, and implement machine learning algorithms for IoT data.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills

Critical Thinking Skills

Students will identify a problem, break it down into its components and design a solution.

III. Major Course Topics

- A.** Foundations of IoT
- B.** IoT Application Development
- C.** Network Communications
- D.** IoT Data
- E.** Cloud Computing
- F.** Distributed Systems and Databases
- G.** System Programming
- H.** Machine Learning
- I.** Classification and Clustering