

MISSOURI WESTERN STATE UNIVERSITY
COLLEGE OF LIBERAL ARTS AND SCIENCES

DEPARTMENT OF COMPUTER SCIENCE, MATHEMATICS, AND PHYSICS

COURSE NUMBER: CSC 346

COURSE NAME: Data Exchange Technologies

COURSE DESCRIPTION:

This course explores the exchange of data between computer systems. It explores data exchange technologies such as XML and JSON. Programming techniques such as AJAX will also be used in conjunction with various API's to develop web-based or desktop applications. Students are encouraged to review HTML, CSS, and JavaScript prior to the beginning of the course.

PREREQUISITES

ACT 301 with a grade of C or higher and either ACT 211 or CSC 254 with a grade of C or higher.

TEXT:

Required: The Go Programming Language by Alan A. Donovan

Recommended: Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 4th Edition by Robin Nixon

COURSE OBJECTIVES :

Note: This course cover contents that have proven to quite dynamic. Deviations from the Objectives and Outline are likely to be essential due to emerging trends.

- Understand the role of Data Exchange in modern IT development
- Understand the current technologies for data exchange
- Be able to use APIs and Authorization technologies
- Possess the tools needed to implement data exchange.

COURSE OUTLINE:

I.Role of Data Exchange

- A. Web pages
- B. Mobile Applications
- C. Non-mobile applications

II.Information retrieval with SQL

- A. Advanced SELECT methods

III.Language tools for data exchange (Go or Java with needed JAR files)

IV.Restful APIs

- A. Open APIs
- B. API keys
- C. OAuth and OAuth2

V.XML

- A. Role of XML and best applications
- B. XML Structure

C. XML Tools

VI.JSON

A. Role of JSON

B. JSON without JavaScript

C. AJAX and JSON