1. *Course number and name*: CSCI 5436 Distributed Web Systems Design

2. *Credits and contact hours*: 3 credit, 3 contact

3. *Instructor's or course coordinator's name*: Wen-Ran Zhang, PhD

4. *Text book, title, author and year*: Internet & World Wide Web-How to Program, 5th Ed, Deitel
   a. *Other supplemental materials:* None

5. *Specific course information*
   a. *Brief description of the content of the course (Catalog Description)* This course involves programming methodologies for the World Wide Web. Topics include: Client-side programming, distributed transactions, remote procedure calls, component objects, server side programming and network load balancing. Graduate students will be given an extra assignment determined by the instructor that undergraduates will not be required to do.
   b. *Prerequisites*: A minimum grade of "C" in CSCI 3432
   c. *Indicate whether a required, elective, or selected elective course in the program*
      Required course for BS-CS since 2013-2014 catalog.

6. *Specific goals for the course*
   a. *Specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*

Course Learning Outcomes	Student Outcomes
Ability to understand and apply modern client-side scripting languages	1a, 1b, 1c, 1i
Be able to develop HTML documents confronting to language standards publicized by World Wide Web Consortium	1a, 1b, 1c, 1i
Ability to understand and apply modern server-side scripting languages	1a, 1b, 1c, 1i
Be able to design and develop Web applications incorporating multiple dynamically generated pages and role-based permissions	1a, 1b, 1c, 1i
Ability to understand and apply 3-tiered Web system architecures (MVC) and associated protocols, languages, and technologies	1a, 1b, 1c, 1i

Ability to work in teams to develop medium/large scale client-server Web systems	1a, 1b, 1c, 1i
Ability to analyze, design, and develop database - enabled Web applications	1a, 1b, 1c, 1i
Be able to create HTML documents that interacts with the user and change structure in response to user events	1a, 1b, 1c, 1i
Be able to create HTML documents that responds to asynchronous events	1a, 1b, 1c, 1i
Ability to collaborate in project teams, to create project documentation, and perform project presentations	1d, 1f

b. Student Outcomes

- 1a: An ability to apply knowledge of computing and mathematics appropriate to the discipline
- 1b: An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- 1c: An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs
- 1d: An ability to function effectively on teams to accomplish a common goal
- 1f: An ability to communicate effectively with a range of audiences
- 1i: An ability to use current techniques, skills, and tools necessary for computing practice

7. *Brief list of topics to be covered*

- Client-Side Development
- HTML5 and CSS
- JavaScript Basics and Advanced
- Ajax and XML
- Server-Side Development
- Web Servers
- Database and PHP
- Java Server Faces Web Applications
- Web Services in Java