CSCI 3321 – CLIENT SERVER WEB PROGRAMMING

CREDIT HOURS: 3
PREREQUISITES: CSIT 3351 or CSCI 2302; CSCI 2311
GRADE REMINDER: Must have a grade of C or better in each prerequisite course.

CATALOG DESCRIPTION

Design of software systems for use in a distributed, networked environment. Utilizes Client/Server models, server-side web programming, client-side web programming, graphical user interfaces, and contemporary web page creation techniques.

PURPOSE OF COURSE

The purpose of the course is to familiarize the students with software development for internet-based systems. Students will gain more object-oriented software development skills. The course will introduce the students to basic interface design through a graphical web interface, such as a browser. The students will receive exposure to the backend development of a system with an introduction to simple database connections.

EDUCATIONAL OBJECTIVES

Upon successful completion of the course, students should be able to:

1. Demonstrate an understanding of client/server models
2. Demonstrate an understanding of web-based programming
3. Understand rudimentary access to a networked database
4. Complete team-based projects
5. Design user interfaces for web applications

COURSE CALENDAR

This course meets for a minimum of 37.5 lecture contact hours during the semester, including the final exam. Students have significant weekly extracurricular assignments which may involve reading, watching videos, or engaging in other forms of preparation. Students are expected to complete 7-10 laboratory or programming assignments, and 2-3 periodic exams in addition to the final exam. Students are expected to prepare for any class assignments or quizzes over the material covered in class or the extracurricular assignments. Successful completion of these activities requires at least six additional hours of outside of classroom work each week.

CONTENT

Introduction to Dynamic Web Content ........................................................................................................................................................................3
  Request/Response Procedure
  Web Servers
  HTML

Introduction to Client-Side Programming .................................................................................................................................................................12
  Flow/Control
  Predefined Functions
  Event Handling
  Graphical User Interface Design
  CSS Design

Introduction to Distributed Database Design .........................................................................................................................................................6
Relational Design
Queries, updates, forms and reporting

Introduction to Server-Side Programming ............................................................. 12
   API Usage
   Session ID usage
   Database Interaction
   Browser Differentiation Techniques
   Authentication and Authorization

Web Server Project ........................................................................................................ 9

Exams (plus final) ........................................................................................................... 3

TOTAL 45

REFERENCES

Nixon, Learning PHP, MySQL, and JavaScript: With JQuerry, CSS, and HTML5, O’Reilly, 5th, 2018

Munro, ASP.NET MVC 5 with Bootstrap and Knockout.js: Building Dynamic, Responsive Web Applications, O’Reilly, 1st, 2015