COMC 2749: Web Application Development

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 2
Lab Hours/Week: 2
OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
   COMC 2747 - Database Application Development

Corequisites: None

MnTC Goals: None

This course covers the design and implementation of server-based web applications using Microsoft MVC & EF frameworks and single-page applications (SPA) using Angular, TypeScript, and JavaScript. MVC topics include views, partial views, view components, routing, model binding, tag helpers, and web services/APIs. SPA application topics include components, data binding, directives, services, dependency injection, routing, observables, subjects, forms, pipes, http requests, and REST API. (Prerequisite: COMC2747) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 09/28/2000 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. MVC web applications, web APIs
2. Single-page applications (SPA)
3. Angular UI form and service components
4. Angular observables, subjects, HTTP requests, REST API
D. LEARNING OUTCOMES (General)

1. Server-based MVC web applications
   a) Create list views
   b) Create form views
   c) Create partial views
   d) Create view components
   e) MVC Views
   f) Configure controller-action routing
   g) Use model binding
   h) Create tag helpers
   i) Web services/APIs

2. Create single page applications (SPA)
   a) Create list components
   b) Create form components
   c) Display and modify model data using data binding
   d) Control UI using ngIf, ngFor and ngSwitch directives
   e) Angular components
   f) Create model classes
   g) Define service classes
   h) Dependency injection
   i) Configure application routing
   j) Use observables & subjects for inter-module communication
   k) Create reactive forms
   l) Map JSON to Typescript classes
   m) Perform server interaction using HttpClient/REST
   n) Use Angular Material UI components

3. Display professional attitude

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

   None

F. LEARNER OUTCOMES ASSESSMENT

   As noted on course syllabus

G. SPECIAL INFORMATION

   This course was previously called Web Server Scripting/ASP.Net