COMC 2749: Web Application Development

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 2
Lab Hours/Week: 2
OJT Hours/Week: *.*
Prerequisites: None
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 may be taken concurrently) (3 credits: 2 lecture/1 lab)

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

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

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

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

3. Create CMS (content management system) integrated modules
   a) Create CMS modules
   b) Integrate modules with CMS authentication

4. 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