

Minnesota State College Southeast

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