

# 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