ITMD 464 SYLLABUS

ITMD 464 Advanced Web Application Development

Hours: 3 credit hours / 45 contact hours

Instructor: Martin Schray

Textbook, title, author, and year:
> None Required; Reference Material on http://www.asp.net/;
> https://msdn.microsoft.com/en-us/vstudio;
> http://www.microsoftvirtualacademy.com/producttraining/visual-studio-courses

Specific course information
a. **Catalog description:** Strategies for management of electronic commerce allow students to learn to re-engineer established business processes to increase enterprise competitive advantage, provide better customer service, reduce operating costs, and achieve a better return on investment. Students will learn to evaluate, use, and deploy state-of-the-art tools and techniques needed to develop a reliable e-commerce offering on the Web. The course will cover state-of-the-art programming and development tools. This class will provide students with hands-on exposure needed to design and build a fully functional e-commerce Web site.
b. **Prerequisites:** ITMD 463

Specific goals for the course
a. **Course Outcomes:** This course builds on the foundation of intermediate web application development course ITMD-463 and will explore advanced tools and techniques to build and deploy web applications. Each successful student will learn how to architect web applications, evaluate and choose the right architecture for a web application depending on the requirements. Application Life Cycle management tools will also be introduced to understand how large software projects can be managed end to end. Students will use the free Visual Studio 2013 community edition to build advanced web application using Web Forms, MVC, Web Api and Single Page Application templates. In addition to C#, the students will also use HTML 5, CSS and JavaScript to build the applications and experience deploying the applications on Microsoft Azure.
b. **Course student outcomes:**
  - Architect a layered web application using Application Life Cycle Management tool
  - Explain the Application Life Cycle and Page life cycle in a web application running on IIS Server
  - Use any of the application templates to build a web application - Web Forms, MVC, Web Api, Single Page Application
  - Use the advanced capabilities of C# Language, Entity Framework, LINQ
  - Explain secure application development using authentication models
  - Apply Application Development best practices like SOLID principles
  - Describe application of some of the advanced features like asynchronous programming, socket programming (SignalR)
  - Recall and describe options for mobile application development

Topics to be covered
a. Review Application Life Cycle, Page Life Cycle, Basic ASP.NET concepts
b. Review C#, Entity Framework and LINQ
c. Advanced C# Language
d. Advanced Entity Framework concepts
e. Using LINQ
f. Working with Web Forms, MVC and Web API
g. Architecting Web Application
h. N Layered Web Application, Architecture tool in Visual Studio
i. ASP.NET Web Forms
j. Data Binding - Review
k. Ajax
l. Http Modules and Http Handlers
m. User Profiles, Authentication and Authorization
n. Enabling authentication, authorization in Web Forms; User Profile, ASP.NET memberships
o. MVC Application
p. Building Services
q. Building Mobile Application
r. Modern Web Application

Each ITM Departmental Syllabus *represents a recent offering of the course. The instructor, textbook(s), course outcomes, and course student outcomes/learning objectives may vary in future semesters.*

June 27, 2020