Course Description and Topical Schedule
CST 556 Distributed Applications for Windows

1. Catalog Description:
   (3) F; Distributed web-based applications using frameworks such as .NET. Essential components, XML, remoting, web services, windows services and user interfaces. Prerequisites: CST 420. Title abbreviation: “Dist Apps for Windows”

2. Prerequisites by Topic
   a. Programming using events, sockets, threads and Serialization in Java and C#.
   b. Basics of C# and .NET framework;
   c. Web page construction in HTML and/or XML.

3. Textbooks and Other Resources

4. Course Objectives
   The course objectives include introduction to using: Visual Studio, learning to develop distributed applications using the C# programming language and the .NET framework; Sockets, Serialization and Threads with C#, .NET; The .NET framework classes for manipulating XML and SOAP; Distributed Objects with .NET Remoting, Web Services and Web Applications; Windows Services; security for ASP.NET applications and databases through ADO.NET.

5. Topics Covered
   a. Prerequisite review; features of and working with C#, the .NET Framework: - properties, boxing, attributes, delegates, the CLR, and console program development (0.5 weeks),
   b. Binary, custom and XML serialization; threading, monitors and sockets (1 week),
   c. XML and related standards including, XML Schema, XSLT and SOAP. Using C# and .NET to create and manipulate XML and Schema document object models, (1.5 weeks)
   d. Distributed applications with .NET Remoting. Distribution paradigms and .NET: single-call, singleton and client-activated. Parameters, return types and proxies for (1 week),
   e. Web Services; manually creating, publishing and consuming web services; Proxies, session, application and state-less Web Services. Securing web services (3 weeks)
   f. User Interfaces with windows forms and web applications; Master pages, pre-defined and user-defined controls; Windows services and database access. (4 weeks),
   g. Describing and discovering Web Services. WSDL, UDDI and evolving forms of remote service description, composition and management. (2 Weeks),
   h. Exams: First Exam covering first 6 weeks; second exam covering second (1 week)

6. Faculty Coordinator
   Dr. [Tim Lindquist](mailto:Tim@asu.edu)