

## **COP 5595 Component Programming with .Net**

**Credits:** 3 credits

**Textbook, title, author, and year:**

(1) Pro C# 5.0 and the .NET 4.5 Framework, 6th Edition, Andrew Troelsen, Apress, 2012.

(2) Detailed documents posted on Blackboard.

**Reference materials:** Common Language Infrastructure (CLI)

**Specific course information**

**Catalog description:**

Microsoft .NET is explored as a component-based platform for programming Web and other applications.

**Prerequisites:**

COP 3530 Data Structures.

COP 5595 can be used as a technical elective in all CS and CE programs.

**Specific goals for the course:**

Use the .NET platform as a vehicle to master component-based and object-oriented programming, especially in the modern IT context.

An ability to apply design and development principles in the construction of software systems of varying complexity.

**Brief list of topics to be covered:**

Architecture of .NET as a component-based platform

Component and object-oriented programming with the C# Programming language

The Microsoft SQL Server DBMS

Embedding SQL in C# using ADO.NET and LINQ

Component-based Web programming with ASP.NET Web Forms and ASP.NET MVC

Web services with ASP.NET, WCF, and ASP.NET API