

George Mack, Computer Science – WID Teaching Portfolio

F. Sample Assignments Produced and Carried Out Under the Writing Fellowship

Course: 420-315-DW, Programming IV – Advanced C# and .NET Programming

F-4. Sample assignment: Peer Teaching Activity

Objectives: Based on work reported in (Welch, Gradin, & Sandell, 2002) (a) teach the C# language-related particularities of defining class methods and behaviours, including scope rules and access modifiers; value, reference and output parameters; named, optional and default parameters; scalar and structured return types including arrays, objects, structs and tuples; (b) carry out a jigsaw-type cooperative learning exercise as a substitute for traditional lecturing; (c) give students practice with researching in the MSDN Help Library documentation for the C# programming language.

Competencies developed: 0004, 000F, 000L, 000U, 016N, 016T, 016U, 016V, 016Z, 0170, 0171, 0172, 0173, 017A, 017C, 017D.

Methodology:

This activity took place on March 21st and 24th 2011.

Preparation:

Instead of arriving at class with 40-50 PowerPoint slides and lecturing on the topic, arrive with only the table of contents slide for the lecture. (NB the instructor still needs to know the material to be covered!)

In-class Activity:

Review the table of contents for the lecture, then explain how the peer teaching activity works.

Provide the class with web hyperlinks to the required reference materials on the MSDN site.

Break students into groups of four or five and assign portions of the lecture materials to be developed by each group. Allow 30 minutes for students to learn the material, explain it to each other, and prepare PowerPoint slides containing outline points and sample C# code. While students are working in small groups, circulate around the room, listening to student interactions, answering questions and providing guidance to keep students on track, productive and within scope.

Have student groups present their material to each other (45 minutes allocated, this time was not enough. Some material spilled over into the following lecture period).

Follow-On Activity:

The subsequent lab assignment required students to use this material in programming work. Student PowerPoint presentations were combined by the teacher uploaded to the course server so that they would be accessible to all students.