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**Department of Computer Science
College of Engineering
University of Nevada, Reno**

CS 790Z Seminar on Software Engineering

Midterm Test

November 10, 2010

Test type: Closed-book examination
Number of questions: 6
Total points: 45
Test weight in course grade: 20%
Time: 70 minutes

Questions:

- 1** Briefly explain the textbook's authors' view that an architecture-centric approach is beneficial for the software engineering activities of *analysis* and *testing* (provide three justifications for this view).
[ref: Chapter 2, Architectures in Context: The Re-orientation of Software Engineering] [6 points]
- 2** Explain what is meant by a *software component* and by a *software connector* and give two examples of each.
[ref: Chapter 3, Basic Concepts] [8 points]
- 3** Describe the *peer-to-peer* architectural style. Also, indicate its advantages (benefits), disadvantages (or limitations), and typical uses.
[ref: Chapter 4, Designing Architectures] [9 points]
- 4** Explain what the *Unified Modeling Language (UML)* is and describe its main characteristics. Also, what do you think are UML's main strengths and limitations?
[ref: Chapter 6, Modeling] [9 points]
- 5** Enumerate and briefly describe four criteria that can be used to evaluate visualizations (2-3 lines each).
[ref: Chapter 7, Visualization] [6 points]
- 6** Indicate the three main categories of architectural analysis techniques and briefly describe each of them (3-5 lines each).
[ref: Chapter 8, Analysis] [7 points]