

# COMP 3705 – Winter 2009

## HW#5: Midterm Review

**Instructor:**

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**Due by:**

5:pm on February 16, 2009

### **1 Background / Introduction**

**1.1 What can you prove about the quality of a program by testing it?**

**1.2 In the RIP model, what three conditions must be present for a failure to be observed?**

**1.3 Why are Test Adequacy Criteria needed?**

**1.4 What is Subsumption?**

## **2 Graph Coverage Criteria**

**2.1 Why is Prime Path Coverage (PPC) needed? Why not just stick with Complete Path Coverage (CPC)?**

**2.2 What is Best-Effort Touring? What issue does it attempt to address?**

**2.3 If you are doing Best-Effort touring with a Data-Flow criterion, what limitation is placed on sidetrips?**

**2.4 Describe the difference between Syntactic Reachability and Semantic Reachability? Which one is hard to detect automatically?**

**2.5 In inter-procedural data-flow analysis, why do we differentiate between “full” data flow and “coupling”?**

### **3 Logic Coverage Criteria**

**3.1 What are the tradeoffs between using GACC, CACC and RACC?**

**3.2 What are “internal variables”? Why are they challenging to deal with?**