

**Philosophy 134**  
**Spring, 2005**  
**Homework 3**

**Due: April 25, 2005, in class**

1. Explain how “possible worlds” semantics is a generalization of the truth-functional semantics.
2. Prove the following semantical rule: If  $v_I(\alpha \supset \beta, w_i) = \mathbf{T}$  at all worlds  $w_i$  such that  $\mathbf{R}ww_i$ , then  $v_I(\alpha \supset \beta, w) = \mathbf{T}$ .
3. Propose and defend a rule of Strict Reiteration for the ‘ $\circ$ ’ and of  $\circ$  Introduction.
4. Derive the following theorem in the basic system:  $\Box(A \wedge B) \equiv (\Box A \wedge \Box B)$ .
5. Derive the following theorem in the basic system:  $(\Box A \supset \Diamond B) \supset \Diamond(A \supset B)$ .