CRITICAL THINKING

Workshop #1

Statement Classification

Professor David Emmanuel Gray

Explanation of Annotations for These Solutions

The problem is in black Futura Std type.

The solution is in red Garamond Premier Pro type.

Any commentary is in blue Futura Std type.

Please Note: When solving these types of problems for a quiz or an exam, you are expected to format your own solutions in a similar manner as I have done on these slides. Failure to do so may result in a small penalty for not following instructions or even a larger penalty because I do not understand your solution.

Part I Solutions

1. The seniors love logic.

   Simple positive.

Part I Solutions

2. Either the seniors or the juniors love logic.

Compound disjunctive, where

First disjunct is simple positive, and

Second disjunct is simple positive.

Part I Solutions

3. The seniors do not take boring classes.

Simple negative.

Part I Solutions

4. If the sophomores love logic, then the seniors are confused.

Compound hypothetical, where

The antecedent is simple positive, and

The consequent is simple positive.

Part I Solutions

5. The juniors do not like illogical things and the seniors love to expose illogical thinking in their professors.

Compound conjunctive, where

The first conjunct is simple negative, and

The second conjunct is simple positive.

Part II Solutions

1. The seniors will confuse the sophomores, unless the sophomores are clever.

Compound disjunctive, where

The first disjunct is simple positive, and

The second disjunct is simple positive.

Comment: Recall that "unless" usually indicates disjunction. Also in this statement, the claim is simply that *at least one* of these is true (so it is not denying the possibility that both disjuncts are true).

Part II Solutions

2. If both the seniors and the juniors sleep through logic, then the professor will not talk quietly.

Compound hypothetical, where

The antecedent is compound conjunctive, where

The first conjunct is simple positive, and

The second conjunct is simple positive; and

The consequent is simple negative.

Part II Solutions

3. If either the seniors get good paying jobs or the juniors find the best internships, then the first-year students sink into depression while the sophomores are jealous.

Compound hypothetical, where
- The antecedent is compound disjunctive, where
  - The first disjunct is simple positive, and
  - The second disjunct is simple positive; and
- The consequent is compound conjunctive, where
  - The first conjunct is simple positive, and
  - The second conjunct is simple positive.

Comment: "While" indicates conjunction as it asserts something about both freshman and sophomores.

Part II Solutions

4. Study logic every night and you will get a good grade.

Compound hypothetical, where

The antecedent is simple positive, and

The consequent is simple positive.

Comment: Did this one fool you? Sometimes "and" can denote a *hypothetical*. Here the *only* way to prove this statement wrong is to make the antecedent true (by studying every night) and then showing the consequent is false (you do not get a good grade). I also strongly encourage you to try proving this hypothetical wrong.

Next Class…

We will finally start to look at arguments by learning about the "glue" that binds statements together in an argument: inferences!