PHI 120 – Introductory Logic
Review of the Rules

There are 10 Rules:

***Elimination* Rules** allows you to break up a (binary) connective	***Introduction* Rules** allows you to build the (binary) connective
• &E (**ampersand Elimination**)	• &I (**ampersand Introduction**)
• vE (**wedge Elimination**)	• vI (**wedge Introduction**)
• ->E (**arrow Elimination**)	• ->I (**arrow Introduction**)
• <->E (**double arrow Elimination**)	• <->E (**double arrow Introduction**)
A **(Rule of Assumption)**	
RAA **(Reductio ad absurdum)**	

Number and Kind of Premises (what is the conclusion of each rule?)

1 PREMISE RULES	**2 PREMISE RULES**

• &E (**ampersand Elimination**)
  • a conjunction
	• &I (**ampersand Introduction**)
	  • any kind of sentence (i.e., one of the conjuncts)
	  • any kind of sentence (i.e., one of the conjuncts)

• vI (**wedge Introduction**)
  • any kind of sentence (i.e., one of the disjuncts)
	• vE (**wedge Elimination**)
	  • a disjunction
	  • denial of one of the disjuncts

• ->I (**arrow Introduction**)
  • the consequent of the conditional
  • the antecedent is the discharged assumption
	• ->E (**arrow Elimination**)
	  • a conditional
	  • antecedent of the conditional

• <->E (**double arrow Elimination**)
  • a biconditional
	• <->E (**double arrow Introduction**)
	  • a conditional (Φ->Ψ)
	  • the mirror conditional (Ψ->Φ)

NB: The Assumption Rule does not have any premises	• RAA (**Reductio ad absurdum**)
	  • any sentence (Φ)
	  • its contradiction (~Φ)
	  • allows you to discharge any assumption in the proof

Strategy of ->I:

1) Assume the antecedent of conclusion
2) Generate the consequent (i.e., as a conclusion)
3) Apply ->I rule to generate the conditional

Strategy of RAA:

1) Assume the denial of the conclusion
2) Generate a contradiction
3) Use RAA to deny (eventually) assumption in step 1