Rules of Intuitionistic Natural Deduction

$\vdash_{\text{Int}}$ is the smallest relation relating sets of sentences to sentences that meets the following conditions:

Identity	If $\gamma \in \Gamma$, then $\Gamma \vdash_{\text{Int}} \gamma$.
Transitivity	If $\Gamma \vdash_{\text{Int}} \delta$ for each member δ of Δ and $\Delta \vdash_{\text{Int}} \varphi$, then $\Gamma \vdash_{\text{Int}} \varphi$.
"$\wedge$"-*introduction*	$\{\varphi,\psi\} \vdash_{\text{Int}} (\varphi \wedge \psi)$.
"$\wedge$"-*elimination*	$\{(\varphi \wedge \psi)\} \vdash_{\text{Int}} \varphi$ and $\{(\varphi \wedge \psi)\} \vdash_{\text{Int}} \psi$.
"$\vee$"-*introduction*	$\{\varphi\} \vdash_{\text{Int}} (\varphi \vee \psi)$, and $\{\psi\} \vdash_{\text{Int}} (\varphi \vee \psi)$.
Proof by cases	If $\Gamma \cup \{\varphi\} \vdash_{\text{Int}} \theta$ and $\Gamma \cup \{\psi\} \vdash_{\text{Int}} \theta$, then $\Gamma \cup \{(\varphi \vee \psi)\} \vdash_{\text{Int}} \theta$.
Modus ponens	$\{\varphi\ (\varphi \rightarrow \psi)\} \vdash_{\text{Int}} \psi$.
Conditional proof	If $\Gamma \cup \{\varphi\} \vdash_{\text{Int}} \psi$, $\Gamma \vdash_{\text{Int}} (\varphi \rightarrow \psi)$.
Ex contradictione quodlibet	$\{\bot\} \vdash_{\text{Int}} \chi$, any χ.
Law of contradiction	$\{\varphi, {\sim}\varphi\} \vdash_{\text{Int}} \bot$.
Intuitionistic reductio	If $\Gamma \cup \{\varphi\} \vdash_{\text{Int}} \bot$, $\Gamma \vdash_{\text{Int}} {\sim}\, \varphi$.

To get classical logic, take $\vdash_{\text{Class}}$ to be the smallest relation that meets the eleven condiitons above, together with:

Double negation elimination $\{{\sim}\,{\sim}\,\varphi\} \vdash_{\text{Class}} \varphi$.