

Logics: are formal languages for representing information such that conclusions can be drawn

Syntax: defines sentences in the language
semantics: defines the meaning of sentences

Entailment

1. When a sentence follows from another
 $\alpha \models \beta$
 α entails β
2. every model where α is true, β is also true
3. $M(\alpha) \subseteq M(\beta)$

Models: Logicians typically think in terms of models, which are formally structured worlds with respect to which truth can be evaluated