formal semantics In linguistics, formal semantics seeks to understand linguistic meaning by constructing precise mathematical models of the principles that speakers use to define relations between expressions in a natural language and the world that supports meaningful discourse. The mathematical tools used are the confluence of formal logic and formal language theory, especially typed lambda calculi.

Formal semantics (linguistics) - Wikipedia
Joseph P. De Veaughe-Geiss, Swantje Tönnis, Edgar Onea, Malte Zimmermann PDF EARLY ACCESS

Semantics and Pragmatics
In computer science, specifically software engineering and hardware engineering, formal methods are a particular kind of mathematically based technique for the specification, development and verification of software and hardware systems. The use of formal methods for software and hardware design is motivated by the expectation that, as in other engineering disciplines, performing appropriate ...