

1086-M5-2685      **Helmut Knaust\*** ([hknaust@utep.edu](mailto:hknaust@utep.edu)), Department of Mathematical Sciences, The University of Texas at El Paso, El Paso, TX 79968. *A Plaidoyer for Boolean Algebra.*

An introductory proofs course is often the first course exclusively taken by mathematics majors: Students study logic and sets first, then learn various proof techniques, and finally are exposed to functions and other relations. What is missing? Students do not learn to reason based on an axiomatic system. Typically examples are instead drawn from number theory, assuming the students to be somewhat familiar with its concepts. We propose to include the topic of Boolean Algebra as an example of an axiomatic system from the very beginning of the course. On the one hand, sets and binary logic provide the two classical examples of Boolean Algebra, on the other hand the topic can be revisited throughout the course, e.g. when studying order relations and functions. As an illustration we will present a homework problem sequence to accompany a proofs course which leads from the statement of the axioms of a Boolean Algebra to the classification theorem for finite Boolean Algebras. (Received September 25, 2012)