

# Introduction To Logic

The methods of logic are essential to an understanding of philosophy and are crucial in the study of mathematics, computing, linguistics and many other subjects. Introducing the major concepts and techniques involved in the study of logic, this authoritative book explores both formal and philosophical logic, and the ways in which we can achieve good reasoning. Individual chapters include: \* Propositions and Arguments \* Truth Tables \* Trees \* Conditionality \* Natural Deduction \* Predicates, Names and Quantifiers \* Definite Descriptions. This exceptionally clear introduction to the subject is ideally suited to students taking introductory courses in logic.

First published in Polish in 1936, this classic work was originally written as a popular scientific book - one that would present to the educated layman a clear picture of certain powerful trends of thought in modern logic.

Table of contents

Logic is often perceived as having little to do with the rest of philosophy, and even less to do with real life. Graham Priest explores the philosophical roots of the subject, explaining how modern formal logic addresses many issues.

An Introduction to Logic, Sets, and Relations

## **An Introduction**

### **A Rigorous Introduction to Formal Logic**

Learn how to develop your reasoning skills and how to write well-reasoned proofs. Learning to Reason shows you how to use the basic elements of mathematical language to develop highly sophisticated, logical reasoning skills. You'll get clear, concise, easy-to-follow instructions on the process of writing proofs, including the necessary reasoning techniques and syntax for constructing well-written arguments. Through in-depth coverage of logic, sets, and relations, Learning to Reason offers a meaningful, integrated view of modern mathematics, cuts through confusing terms and ideas, and provides a much-needed bridge to advanced work in mathematics as well as computer science. Original, inspiring, and designed for maximum comprehension, this remarkable book:

- \* Clearly explains how to write compound sentences in equivalent forms and use them in valid arguments
- \* Presents simple techniques on how to structure your thinking and writing to form well-reasoned proofs
- \* Reinforces these techniques through a survey of sets--the building blocks of mathematics
- \* Examines the fundamental types of relations, which is "where the action is" in mathematics
- \* Provides relevant examples and class-tested exercises designed to maximize the learning experience
- \* Includes a mind-building game/exercise space

at [www.wiley.com/products/subject/mathematics/](http://www.wiley.com/products/subject/mathematics/)  
Students learn logic by practicing it--by working through problems, analyzing existing arguments, and constructing their own arguments in plain language and symbolic notation. The Art of Reasoning not only introduces the principles of critical thinking and logic in a clear, accessible, and logical manner--thus practicing what it preaches--but it also provides ample opportunity for students to hone their skills and master course content.

Claire Ortiz Hill The publication of all but a small, unfound, part of the complete text of the lecture course on logic and theory of knowledge that Edmund Husserl gave at Göttingen during the winter semester of 1906/07 became a reality in 1984 with the publication of *Einleitung in die Logik und Erkenntnistheorie, Vorlesungen 1906/07* edited by 1 Ullrich Melle. Published in that volume were also 27 appendices containing material selected to complement the content of the main text in significant ways. They provide valuable insight into the evolution of Husserl's thought between the *Logical Investigations* and *Ideas I* and, therefore, into the origins of phenomenology. That text and all those appendices but one are translated and published in the present volume. Omitted are only the "Personal Notes" dated September 25, 1906, November 4, 1907, and March 6, 1908, which were translated by Dallas Willard and published in his

translation of Husserl's Early 2 Writings in the Philosophy of Logic and Mathematics. Introduction to Logic and Theory of Knowledge, Lectures 1906/07 provides valuable insight into the development of the ideas from mental to phenomenology. Besides shedding considerable light on the genesis of phenomenology, it sheds needed light on many other dimensions of Husserl's thought that have puzzled and challenged scholars.

Unsurpassed for its clarity and comprehensiveness, Hurley's A CONCISE INTRODUCTION TO LOGIC is the #1 introductory logic textbook on the market. In this Twelfth Edition, Hurley continues to build upon the tradition of a lucid, focused, and accessible presentation of the basic subject matter of logic, both formal and informal. The edition's new Previews connect a section's content to real-life scenarios pertinent to students' lives, using everyday examples to translate new notions and terms into concepts that readers unfamiliar with the subject matter can relate to. Hurley's extensive, carefully sequenced exercises guide students toward greater proficiency with the skills they are learning. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

An Introduction to the Philosophy of Logic  
An Introduction to Logic and Critical Thinking, Fourth Edition

Introduction to Logic and Critical Thinking  
*A clear, concise, accessible presentation of the principles of deductive logic. This text could be used in formal logic, deductive logic, or intro to logic as a the sole text or in conjugation with one of Pospel's other texts. Logic originally meaning "the word" or "what is spoken" is generally held to consist of the systematic study of the form of arguments. A valid argument is one where there is a specific relation of logical support between the assumptions of the argument and its conclusion. There is no universal agreement as to the exact scope and subject matter of logic, but it has traditionally included the classification of arguments, the systematic exposition of the 'logical form' common to all valid arguments, the study of inference, including fallacies, and the study of semantics, including paradoxes. Historically, logic has been studied in philosophy and mathematics and recently logic has been studied in computer science, linguistics, psychology, and other fields. The book is about the logic and talks about various aspects of it such as general character of the enquiry, argument from analogy, mathematical reasoning, etc. This book will prove to be very useful for the*

*people interested in logic as well as the students of logic.*

*Meaning and Argument is a popular introduction to philosophy of logic and philosophy of language. Offers a distinctive philosophical, rather than mathematical, approach to logic Concentrates on symbolization and works out all the technical logic with truth tables instead of derivations Incorporates the insights of half a century's work in philosophy and linguistics on anaphora by Peter Geach, Gareth Evans, Hans Kamp, and Irene Heim among others Contains numerous exercises and a corresponding answer key An extensive appendix allows readers to explore subjects that go beyond what is usually covered in an introductory logic course Updated edition includes over a dozen new problem sets and revisions throughout Features an accompanying website at <http://rucss.rutgers.edu/~logic/MeaningArgument.html> Part I of this coherent, well-organized text deals with formal principles of inference and definition. Part II explores elementary intuitive set theory, with separate chapters on sets, relations, and functions. Ideal for undergraduates.*

*Logic*

## *Introduction to Logic* *Lectures 1906/07*

This book introduces the fundamental methods & techniques of correct reasoning, in a manner that shows the relevance of the topics to readers everyday lives. Many new exercises introduced in this edition help supplement & support explanations, aid in review & make the book visually stimulating. This book includes many fascinating illustrations taken from the history of science as well as from contemporary research in the physical & biological sciences, plus introduces an abundance of new exercises throughout, complete with solutions for the first exercise in a set. It's appropriate for those in business, education, political or psychology careers.

Originally published in 1967. The common aim of all logical enquiry is to discover and analyse correctly the forms of valid argument. In this book concise expositions of traditional, Aristotelian logic and of modern systems of propositional and predicative logic show how far that aim has been achieved. A Mathematical Introduction to Logic, Second Edition, offers increased flexibility with topic coverage, allowing for choice in how to utilize the textbook in a course. The author has made this edition more accessible to better meet the needs of today's undergraduate mathematics and philosophy students. It is intended for the reader who has not studied logic previously, but who has some experience in mathematical reasoning. Material is presented on computer science issues such as computational complexity and database queries, with additional coverage of introductory material such as sets. \* Increased flexibility of the text, allowing instructors more choice in how they use the textbook in courses. \* Reduced mathematical rigour to fit the needs of undergraduate students

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This is a comprehensive introduction to the fundamentals of logic (both formal logic and critical reasoning), with exceptionally clear yet conversational explanations and a multitude of engaging examples and exercises. Herrick's examples are on-point and fun, often bringing in real-life situations and popular culture. And more so than other logic textbooks, Introduction to Logic brings in the history of philosophy and logic through interesting boxes/sidebars and discussions, showing logic's relation to philosophy.

The Art of Reasoning

A Contemporary Introduction

A Mathematical Introduction to Logic

Introduction to Logic is clear and concise, uses interesting examples (many philosophical in nature), and has easy-to-use proof methods. Its key features, retained in this Third Edition, include: simpler ways to test arguments, including an innovative proof method and the star test for syllogisms; a wide scope of materials, suiting it for introductory or intermediate courses; engaging examples, from philosophy and everyday life; useful for self-study and preparation for standardized tests, like the LSAT; a reasonable price (a third the cost of some competitors); and exercises that correspond to the free LogiCola instructional program.

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This Third Edition: improves explanations, especially on areas that students find difficult; has a fuller explanation of traditional Copi proofs and of truth trees; and updates the companion LogiCola software, which now is touch friendly (for use on Windows tablets and touch monitors), installs more easily on Windows and Macintosh, and adds exercises on Copi proofs and on truth trees. You can still install LogiCola for free (from <http://www.harryhiker.com/lc> or <http://www.routledge.com/cw/gensler>). Introduction to Logic is a proven textbook that has been honed through the collaborative efforts of many scholars over the last five decades. Its scrupulous attention to detail and precision in exposition and explanation is matched by the greatest accuracy in all associated detail. In addition, it continues to capture student interest through its personalized human setting and current examples. The 14th Edition of Introduction to Logic, written by Copi, Cohen & McMahon, is dedicated to the many thousands of students and their teachers - at hundreds of

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universities in the United States and around the world - who have used its fundamental methods and techniques of correct reasoning in their everyday lives.

Unsurpassed for its clarity and comprehensiveness, *A CONCISE INTRODUCTION TO LOGIC* is the #1 introductory logic textbook on the market. In this 13th Edition, Patrick Hurley and new co-author Lori Watson continue to build upon the tradition of a lucid, focused, and accessible presentation of the basic subject matter of both informal and formal logic. *How Logical Are You?* features connect a section's content to real-life scenarios pertinent to students' lives, using everyday examples to translate new notions and terms into concepts to which readers unfamiliar with the subject matter can relate. *Living Logic*, a new digital activity, allows students to apply the skills they learn to a real-world problem. The text's extensive, carefully sequenced exercises guide students toward greater proficiency with the skills they are learning. Important Notice: Media

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The fourth edition of a classic book on logic has been thoroughly revised by the author's son. It is a fundamental guide to modern mathematical logic and to the construction of mathematical theories. The first half covers the elements of logic, and the second half covers the applications of logic in theory building. A short biographical sketch of Alfred Tarski is a newly-added section.

A Concise Introduction to Logic

Introduction to Logic (Teacher Guide)

Logic: A Very Short Introduction

**The vital resource for grading all assignments from the Introduction To Logic course, which includes: Instructional insights enhanced with worksheets and additional practice sheets Special chapter reviews at the beginning of each new chapter worksheet created to help students and teachers grasp the scope of each section. OVERVIEW:**

**Welcome to the world of logic. This logic course will both challenge and inspire students to be able to defend their faith against atheists and skeptics alike. Because**

learning logical terms and principles is often like learning a foreign language, the course has been developed to help students of logic learn the practical understanding of logical arguments. To make the course content easier to grasp, the schedule provides worksheets and practice sheets to help students better recognize logical fallacies, as well as review weeks for the quizzes and the final. The practice sheets in the back of the book offer practical study for both the final exam and for actual arguments you might encounter online or in the media. FEATURES: The calendar provides daily sessions with clear objectives and worksheets, quizzes, and tests, all based on the readings from the course book.

Written for independent study and suitable for an introductory course in logic, this classic text combines a sound presentation of logic with effective pedagogy and illustrates the role of logic in many areas of humanistic and scientific thought. Cohen and Nagel's elegant integration of the history of philosophy, natural science, and mathematics helps earn this work its distinguished reputation.

Although the two volumes of *Logic, Language, and Meaning* can be used independently of one another, together they provide a

comprehensive overview of modern logic as it is used as a tool in the analysis of natural language. Both volumes provide exercises and their solutions. Volume 1, Introduction to Logic, begins with a historical overview and then offers a thorough introduction to standard propositional and first-order predicate logic. It provides both a syntactic and a semantic approach to inference and validity, and discusses their relationship. Although language and meaning receive special attention, this introduction is also accessible to those with a more general interest in logic. In addition, the volume contains a survey of such topics as definite descriptions, restricted quantification, second-order logic, and many-valued logic. The pragmatic approach to non-truthconditional and conventional implicatures are also discussed. Finally, the relation between logic and formal syntax is treated, and the notions of rewrite rule, automation, grammatical complexity, and language hierarchy are explained.

Introductory logic is generally taught as a straightforward technical discipline. In this book, John MacFarlane helps the reader think about the limitations of, presuppositions of, and alternatives to classical first-order

predicate logic, making this an ideal introduction to philosophical logic for any student who already has completed an introductory logic course. The book explores the following questions. Are there quantificational idioms that cannot be expressed with the familiar universal and existential quantifiers? How can logic be extended to capture modal notions like necessity and obligation? Does the material conditional adequately capture the meaning of 'if'—and if not, what are the alternatives? Should logical consequence be understood in terms of models or in terms of proofs? Can one intelligibly question the validity of basic logical principles like Modus Ponens or Double Negation Elimination? Is the fact that classical logic validates the inference from a contradiction to anything a flaw, and if so, how can logic be modified to repair it? How, exactly, is logic related to reasoning? Must classical logic be revised in order to be applied to vague language, and if so how? Each chapter is organized around suggested readings and includes exercises designed to deepen the reader's understanding. Key Features: An integrated treatment of the technical and philosophical issues comprising philosophical logic Designed to serve students

taking only one course in logic beyond the introductory level Provides tools and concepts necessary to understand work in many areas of analytic philosophy Includes exercises, suggested readings, and suggestions for further exploration in each chapter

**Logic Works**

**Learning to Reason**

**Meaning and Argument**

Written during the height of the Enlightenment, Immanuel Kant's Introduction to Logic is an essential primer for anyone interested in the study of Kantian views on logic, aesthetics, and moral reasoning. More accessible than his other books, Introduction to Logic lays the foundation for his writings with a clear discussion of each of his philosophical pursuits. For more advanced Kantian scholars, this book can bring to light some of the enduring issues in Kant's repertoire; for the beginner, it can open up the philosophical ideas of one of the most influential thinkers on modern philosophy. This edition comprises two parts: "Introduction to Logic" and an essay titled "The False Subtlety of the

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Four Syllogistic Figures," in which Kant analyzes Aristotelian logic. Logic is the study of the principles of correct reasoning. That is its definition. To be logical is to think rightly, and to draw reasonable conclusions from the available information. Why does logic matter, and who decides what is the "right" way to think? If two people disagree on whether something is reasonable, who is correct? What is the standard by which we judge a particular line of reasoning to be correct or incorrect? In the Christian worldview, we can answer these questions because we know that God determines the correct way to reason. He is the standard for all truth claims. In this book you will learn about logic and the Christian worldview, the Biblical basis for the laws of logic, if faith is contrary to reason, informal logical fallacies, and more.

Designed for students with no prior training in logic, INTRODUCTION TO LOGIC AND CRITICAL THINKING offers an accessible treatment of logic that enhances understanding of reasoning in

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everyday life. The text begins with an introduction to arguments. After some linguistic preliminaries, the text presents a detailed analysis of inductive reasoning and associated fallacies. This order of presentation helps to motivate the use of formal methods in the subsequent sections on deductive logic and fallacies. Lively and straightforward prose assists students in gaining facility with the sometimes challenging concepts of logic. By combining a sensitive treatment of ordinary language arguments with a simple but rigorous exposition of basic principles of logic, the text develops students' understanding of the relationships between logic and language, and strengthens their skills in critical thinking. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. Students learn logic by practicing it—by working through problems, analyzing existing arguments, and constructing their own arguments in plain language and symbolic notation.

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The Art of Reasoning not only introduces the principles of critical thinking and logic in a clear, accessible, and logical manner—thus practicing what it preaches—but it also provides ample opportunity for students to hone their skills and master course content.

Introduction to Logic and to the Methodology of the Deductive Sciences  
Introduction to Logic and to the Methodology of Deductive Sciences  
An Introduction to Logic

***Philosophy of logic is a fundamental part of philosophical study, and one which is increasingly recognized as being immensely important in relation to many issues in metaphysics, metametaphysics, epistemology, philosophy of mathematics, and philosophy of language. This textbook provides a comprehensive and accessible introduction to topics including the objectivity of logical inference rules and its relevance in discussions of epistemological relativism, the revived interest in logical pluralism, the question of logic's metaphysical neutrality, and the demarcation between logic and mathematics. Chapters in the book cover the state of the art in contemporary philosophy of logic, and allow students to understand the philosophical relevance of these debates without having to contend with complex technical arguments. This will be a major new resource for students working on logic, as well as for readers seeking a better understanding of philosophy of logic in its wider context.***

*This introductory logic textbook focuses on the basics of logic and language, deduction, and induction. Specific chapters discuss fallacies, categorical propositions, categorical syllogisms, symbolic logic, quantification theory, analogy and inference, casual connections, science and hypothesis, and* ***A Mathematical Introduction to Logic, Second Edition***, offers increased flexibility with topic coverage, allowing for choice in how to utilize the textbook in a course. The author has made this edition more accessible to better meet the needs of today's undergraduate mathematics and philosophy students. It is intended for the reader who has not studied logic previously, but who has some experience in mathematical reasoning. Material is presented on computer science issues such as computational complexity and database queries, with additional coverage of introductory material such as sets.\* Increased flexibility of the text, allowing instructors more choice in how they use the textbook in courses. \* Reduced mathematical rigour to fit the needs of undergraduate students

*Introduction to Logic combines likely the broadest scope of any logic textbook available with clear, concise writing and interesting examples and arguments. Its key features, all retained in the Second Edition, include:* • simpler ways to test arguments than those available in competing textbooks, including the star test for syllogisms • a wide scope of materials, making it suitable for introductory logic courses (as the primary text) or intermediate classes (as the primary or supplementary book) • engaging and easy-to-understand examples and arguments, drawn from everyday life as well as from the great philosophers • a suitability for self-study and for preparation for standardized tests, like the LSAT • a

*reasonable price (a third of the cost of many competitors) • exercises that correspond to the LogiCola program, which may be downloaded for free from the web. This Second Edition also: • arranges chapters in a more useful way for students, starting with the easiest material and then gradually increasing in difficulty • provides an even broader scope with new chapters on the history of logic, deviant logic, and the philosophy of logic • expands the section on informal fallacies • includes a more exhaustive index and a new appendix on suggested further readings • updates the LogiCola instructional program, which is now more visually attractive as well as easier to download, install, update, and use.*

### *Philosophical Logic*

#### *An Introduction to Logic Through Language*

#### *Propositional Logic*

Logic Works is a critical and extensive introduction to logic. It asks questions about why systems of logic are as they are, how they relate to ordinary language and ordinary reasoning, and what alternatives there might be to classical logical doctrines. The book covers classical first-order logic and alternatives, including intuitionistic, free, and many-valued logic. It also considers how logical analysis can be applied to carefully represent the reasoning employed in academic and scientific work, better understand that reasoning, and identify its hidden

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premises. Aiming to be as much a reference work and handbook for further, independent study as a course text, it covers more material than is typically covered in an introductory course. It also covers this material at greater length and in more depth with the purpose of making it accessible to those with no prior training in logic or formal systems. Online support material includes a detailed student solutions manual with a running commentary on all starred exercises, and a set of editable slide presentations for course lectures. Key Features Introduces an unusually broad range of topics, allowing instructors to craft courses to meet a range of various objectives Adopts a critical attitude to certain classical doctrines, exposing students to alternative ways to answer philosophical questions about logic Carefully considers the ways natural language both resists and lends itself to formalization Makes objectual semantics for quantified logic easy, with an incremental, rule-governed approach assisted by numerous simple exercises Makes important metatheoretical results accessible to introductory students through a discursive presentation of those results and by using simple case studies

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Logic, Language, and Meaning, Volume 1  
An Introduction to Formal Logic  
Introduction to Logic and Theory of  
Knowledge