Instructor’s Manual
This instructor’s manual will help instructors prepare to teach logic using the 14th edition of Irving M. Copi, Carl Cohen, and Kenneth McMahon’s *Introduction to Logic*. The manual provides materials designed to assist instructors in presenting central concepts, preparing instructional materials, leading classroom discussion, and evaluating student progress.

The instructor’s manual is organized according to the chapter structure of the textbook. For each chapter, instructors will find the following instructional aids:

**Key Concepts**—This section provides a summary of what is covered in the chapter, pointing out the themes, ideas, and concepts that the chapter emphasizes. This section will help instructors organize a presentation of the chapter.

**Key Terms**—This section lists the most significant terms and concepts used in the chapter; it will be most useful as a quick reference guide.

**Questions for Discussion**—This section provides questions that are intended to stimulate student interaction with and involvement in the important topics covered by the chapter. Instructors should feel free to adapt them to suit the interests and skill levels of their own students.

**Essay Questions**—This section provides questions that will reinforce concepts learned in the chapter and foster critical thinking through writing.

Following Chapter 14, and also organized by chapter, there are:

**Questions for Evaluation**—This section includes multiple-choice, true/false, and pattern-match questions. These questions are also available in an electronic format through the online Test Generator.

I hope that this instructor’s manual will be as useful for instructors teaching with this new edition of *Introduction to Logic* as the textbook is for students encountering logic for the first time.

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PART ONE: LOGIC AND LANGUAGE

CHAPTER ONE:

BASIC LOGICAL CONCEPTS

Key Concepts

1. Logic is the study of reasoning: how it is done correctly, how it goes wrong, and how to distinguish between correct and incorrect reasoning. Reasoning involves constructing and evaluating arguments.

2. Arguments are made up of propositions. In an argument, we attempt to establish the truth of a proposition on the basis of others. Propositions are assertions that are either true or false. A simple proposition makes only one assertion. Compound propositions contain two or more simple propositions. Compound propositions can be conjunctive, disjunctive, or hypothetical. Although sentences express propositions, a sentence and a proposition are not identical. The propositions that provide evidence or support for the truth of some other proposition are called premises. The proposition for which evidence is provided is called the conclusion.

3. Arguments must be distinguished from other forms of expression involving sets of propositions, for instance, expository passages and explanations. An explanation is a group of statements that purport to account for why something happened or why something is the way that it is. Arguments often contain conclusion and premise indicators that allow one to identify them as arguments. When indicators are lacking, the context of the passage provides cues as to whether it is argumentative in nature. Once an argument is identified, care must be taken to identify premises that are not in declarative form or that are unstated.

4. Some arguments are deductive, and some inductive—and all arguments are either one or the other. Deductive arguments claim that if the premises are true, the conclusion follows with absolute necessity. That is, it cannot be false. In valid deductive arguments, if the premises are true, the conclusion does, indeed, follow with absolute necessity. An invalid deductive argument is one in which, if the premises are true, the conclusion could be false. A sound deductive argument is one that is valid and whose premises are all true. The relationship between true (or false) propositions and valid (or invalid) arguments is sometimes quite complex.
5. In inductive arguments, the conclusion is claimed to follow only with high probability. Inductive arguments are never valid or certain; they can be better or worse, more probable or less probable, but they can never be valid or invalid.

**Key Terms**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Enthememe</th>
<th>Premise indicator</th>
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<tbody>
<tr>
<td>Classical logic</td>
<td>Explanation</td>
<td>Probability</td>
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<tr>
<td>Compound proposition</td>
<td>Hypothetical proposition</td>
<td>Proposition</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Induction</td>
<td>Rhetorical question</td>
</tr>
<tr>
<td>Conclusion indicator</td>
<td>Inference</td>
<td>Simple proposition</td>
</tr>
<tr>
<td>Conjunctive proposition</td>
<td>Modern symbolic logic</td>
<td>Soundness</td>
</tr>
<tr>
<td>Deduction</td>
<td>Necessity</td>
<td>Statement</td>
</tr>
<tr>
<td>Disjunctive proposition</td>
<td>Premise</td>
<td>Validity</td>
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**Questions for Discussion**

1. Why is logic relevant to everyday life? Why should one take a course in logic?

2. We often rely on appeals to emotion instead of providing arguments to persuade. Give some examples of this from everyday contexts. Is this problematic? Are there cases when appeals to emotion are appropriate?

3. Give an example of a simple argument you have made recently. Which statements are the premises? Which one is the conclusion?

4. What is the distinction between deductive and inductive arguments? Give an example of each to make your explanation clear.

5. What is the difference between validity and soundness? Why is the distinction relevant for us as students of logic?

**Essay Questions**

1. What is the difference between a premise and a conclusion? Provide an example of an argument (from a newspaper or journal) that highlights this distinction.
2. Why is reasoning considered to be both an art and a skill, and how does taking a course in logic help us to develop that skill?

3. What is the difference between inductive and deductive arguments? What are the ramifications of this difference?

4. The fact that a given argument is valid does not necessarily mean that the premises and the conclusion are true. In some cases, a deductive argument will be valid even when its premises and conclusion are false. If validity doesn't mean truth, why should a logician be concerned with validity?

5. In everyday contexts, we are confronted with arguments in a variety of different spheres—political, religious, legal, medical, and so on. Why is it important to be able to analyze and assess these arguments?
CHAPTER TWO:

ANALYZING ARGUMENTS

Key Concepts

1. Once recognized, arguments can be analyzed by paraphrasing them or by diagramming them. Paraphrasing involves rewording the argument in a clear and precise form. Diagramming involves laying out the structure of the argument in two-dimensional spatial relations. Premises and conclusion are numbered and arranged in a way that makes it easier to identify the relations of support among propositions.

2. Some arguments are exceedingly complex, involving several arguments interwoven together. Students must strive to understand the author's intent and capture the flow of reasoning. Often, an argument can be analyzed in more than one way, and more than one plausible interpretation may be offered. Once the structure of the argument is revealed through careful analysis, we can consider whether the premises really do support the conclusion.

3. Reasoning problems and games can be interesting and effective ways to strengthen reasoning skills. Often, the solution to such problems can be made clearer with the use of a matrix. In the problem-solving approach called retrograde analysis we must reason from what exists to what the original state of affairs must have been at some point in the past. Even though artificial problems and games of reasoning tend to be much simpler and tidier than real-world problems, they nevertheless provide a valuable opportunity to practice reasoning skills, and they can also be entertaining.

Key Terms

Brainteaser  Paraphrasing
Diagramming  Retrograde analysis
Matrix

Questions for Discussion

1. Take one of the examples on pp. 45–48 and paraphrase it to show its underlying structure. Does the paraphrase help you to follow the argument? Do you find it necessary to make any unstated premises explicit?
2. Find an argument in the newspaper on a topic of interest. Diagram the argument using the method described in the text and share your diagram with the class.

3. Why is it important to consider the author’s intent when you are analyzing an argument?

4. How can a matrix be helpful in solving a brainteaser? Apply the matrix technique to the brainteasers on pp. 59–61.

5. In what way can contrived puzzles or brainteasers strengthen reasoning skills?

Essay Questions

1. Why is it unreasonable to require that every premise in an argument give immediate support for the conclusion? Provide an example that explains your answer.

2. What are rhetorical questions? How can they be important to an argument?

3. Why is it sometimes difficult to paraphrase an argument?

4. What are some of the problems one faces when trying to determine the author’s intent? Is the author always right about what he or she intended? Might an argument have a meaning that the author did not intend?

5. Find an example of a complex argument in the newspaper. Paraphrase and diagram the argument and discuss how the methods explained in this chapter helped you to understand the structure of the argument.