

Ministry of Education and Science of Ukraine  
V.N. Karazin Kharkiv National University  
Department of Jurisprudence

APPROVED

Dean

Ivan Karpenko

2023

**LOGIC**

The program for the 1<sup>st</sup> year students of Judicial  
School

Educational qualification level – Bachelor

Direction of Training – 29 International Relations

Specialty – 293 International Law

Educational Program – Jurisprudence

Type of Discipline - Required

2023/2024

The program is recommended for approval by the Academic Council of the School of Philosophy June , 2023, protocol №

Author: Biletsky Igor P., associate professor of the Department of Cultural Studies and Philosophy of Science

The program was approved at the meeting of the Department of Cultural Studies and Philosophy of Science, June 29, 2023, protocol № 13

Head of the Department of  
Cultural Studies and  
Philosophy of Science

,  
Dmitriy PETRENKO

The program is agreed with the guarantor of educational program “Jurisprudence ”  
Guarantor of educational (professional/scientific) program (project team leader)

Full Professor

The program was approved by the Methodical Commission of the School of Jurisprudence

Chairman of the Methodical Commission  
of the School of Jurisprudence

## INTRODUCTION

The program of the discipline **Logic** (required course) is the part of the educational professional program for the students of the first year with specialty 293 International Law.

### 1. Description of the academic discipline

Educational program of the discipline **Logic** includes all main topics supposed for the students of judicial specialities.

1.1. The aim of the discipline consists in acquainting students with the most important aspects, concepts and theories of logic and supposes mastering the follow competencies:

- **General Competencies (GC):**

GC01. Ability to abstract thinking, analysis and synthesis; ability to study and obtain new knowledge.

GC02. Ability to use the obtained knowledge in practical situations.

GC03. Ability to adaptation and action in a new situation.

GC04. Ability to make reasonable decisions, work in a command, skills of interpersonal communication.

GC05. Ability to formulate own thoughts as orally so in written form; ability to communicate in correct language.

GC06. Abilities of using informational and communicational technologies; ability to looking for and working through information from different sources.

GC07. Ability to act consciously and socially responsibly.

- **Special (Professional )Competencies (PC):**

PC1. Skills of questioning.

1.2. **The main tasks** of the discipline **Logic** are:

- understanding the essence of main principles and laws of simple formal logic,
- knowledge of main methods of logical analysis,
- ability to solve logical tasks and problems,
- ability to use the above methods and approaches for logical analysis of judicial questions.

1.3. **Amount of credits – 3,0**

1.4. **Total academic hours – 90**

| <b>1.5. Description of the academic discipline</b> |                     |
|--|---------------------|
| <b><u>Normative</u> / Elective</b>                 |                     |
| Full-time study form                               | Correspondence form |
| Year of study                                      |                     |
| 1st  | -                   |
| Semester   |                     |
| 1st  | -                   |
| Lectures   |                     |
| 32 h   | -                   |
| Practical  |                     |
| 16 h   | -                   |
| Laboratory classes                                 |                     |
| 0 h  | -                   |
| Self-study work                                    |                     |
| 42 h   | -                   |
| Individual tasks                                   |                     |
| 0 h  |                     |

### **1.6. Program Learning Outcomes (PLO)**

According to the requirements of the program, students must demonstrate the following results of their study:

PLO 1 – mastering common and special fundamental and professional knowledge, abilities, skills and competencies necessary for carrying out typical professional tasks in the sphere of jurisprudence, in particular in the sphere of international law and relations.

PLO 2 – use of obtained knowledge in the existing health care system for optimization of own professional activity and participation in solving practical tasks of the system.

PLO 3 – keeping the ethical and judicial codex of professional jurist and specialist in the sphere of international law and relations.

## 2. Thematic plan of discipline

### **Theme 1. What is logic? Brief history of logic.**

What is logic? Logic as a science of correct thinking. Western and Eastern (Indian logic). Logic of Aristotle. Medieval logic. New time logic. Mathematical logic. *Alethic logic* (the logic supplemented with categories of -necessary, -possible, -eventual); *deontic logic* (categories -allowed, -forbidden, -obligatory); *logic of evaluation* (-good, -bad, -better, -worse, -indifferent); *temporal logic* (categories of time); *causal logic* (categories of causality); *teleological logic* (teleological categories of purpose)...

### **Theme 2. Concept.**

Meaning and extension. Kinds and relations of concepts. Methods of the Euler diagrams.

Operations with concepts (generalization, limitation, definition, addition, multiplication, negation, division, classification).

### **Theme 3. Proposition.**

Relative and predicative propositions. Subject term. Distributed term.

Classification of propositions. Logical meaning of propositions. Logical square. Complex propositions. Logic of predicates.

### **Theme 4. Laws of logic.**

Basic laws (identity, consistency, exclusion of the third). The law of sufficient foundation. Additional laws of logic.

### **Theme 5. Syllogism.**

What is syllogism? Simple and complex syllogisms. Rules of term, premises of simple categorical syllogism. Figures and modi of simple categorical syllogism. Entimems, epiheirema, sorit.

### **Theme 6. Methods of testing syllogisms.**

Method of the Wenn diagrams. The antilogism method.

### **Theme 7. Induction and deduction. Methods of inductive logic.**

Induction and deduction. Complete, uncomplete, mathematic induction. Methods of inductive logic of J. St. Mill. Analogy. Hypotetico-inductive method and abduction.

### **Theme 8. Logic of argumentation.**

Proof (thesis, argument, demonstration). *Direct* and *indirect proofs*. Proofs and refutation. Sophism, paralogism, paradox, antinomy. Eristic (discussion, polemics, disputation, debate).

Truth and its logical foundation: classical, coherent, pragmatist, conventional and fideistic approaches.

**Theme 9. Modern multidimensional and mathematical logic.**

Alternative variants of logic. Modern mathematical logic. Logic without the law of the third exclusion – multidimensional logic. Logic of values. Logic of causal teleologic relations.

### 3. Structure of the study discipline

| Themes   | Hours                |           |           |     |           |
|--|----------------------|-----------|-----------|-----|-----------|
|  | Full-time study form |           |           |     |           |
|  | Total                | including |           |     |           |
|  |                      | lectures  | practice  | ind | SSW       |
| <b>Theme 1. What is logic?<br/>Brief history of logic.</b>               | 10                   | 4         | 1         |     | 4         |
| <b>Theme 2. Concept.</b>   | 10                   | 4         | 2         |     | 4         |
| <b>Theme 3. Proposition.</b>   | 10                   | 4         | 2         |     | 4         |
| <b>Theme 4. Laws of logic.</b>   | 10                   | 2         | 1         |     | 4         |
| <b>Theme 5. Syllogism.</b>   | 10                   | 4         | 1         |     | 5         |
| <b>Theme 6. Methods of testing syllogisms.</b>                           | 10                   | 4         | 4         |     | 6         |
| <b>Theme 7. Induction and deduction.<br/>Methods of inductive logic.</b> | 10                   | 2         | 1         |     | 5         |
| <b>Theme 8. Logic of argumentation.</b>                                  | 10                   | 6         | 3         |     | 6         |
| <b>Theme 9. Modern multidimensional<br/>and mathematical logic.</b>      | 10                   | 2         | 1         |     | 4         |
| <b>Total</b>   | <b>90</b>            | <b>32</b> | <b>16</b> |     | <b>42</b> |

#### 4. Themes of lectures

| Themes   | Hours |
|--|-------|
| <b>Theme 1. What is logic?<br/>Brief history of logic.</b>               | 4     |
| <b>Theme 2. Concept.</b>   | 4     |
| <b>Theme 3. Proposition.</b>   | 4     |
| <b>Theme 4. Laws of logic.</b>   | 2     |
| <b>Theme 5. Syllogism.</b>   | 4     |
| <b>Theme 6. Methods of testing syllogisms.</b>                           | 6     |
| <b>Theme 7. Induction and deduction.<br/>Methods of inductive logic.</b> | 2     |
| <b>Theme 8. Logic of argumentation.</b>                                  | 6     |
| <b>Theme 9. Modern multidimensional<br/>and mathematical logic.</b>      | 2     |
| <b>Total</b>   | 32    |

#### 3. Themes of practical lessons



| Themes   | Hours |
|--|-------|
| <b>Theme 1. What is logic?<br/>Brief history of logic.</b>               | 1     |
| <b>Theme 2. Concept.</b>   | 2     |
| <b>Theme 3. Proposition.</b>   | 2     |
| <b>Theme 4. Laws of logic.</b>   | 1     |
| <b>Theme 5. Syllogism.</b>   | 1     |
| <b>Theme 6. Methods of testing syllogisms.</b>                           | 4     |
| <b>Theme 7. Induction and deduction.<br/>Methods of inductive logic.</b> | 1     |
| <b>Theme 8. Logic of argumentation.</b>                                  | 3     |
| <b>Theme 9. Modern multidimensional<br/>and mathematical logic.</b>      | 1     |
| <b>Total</b>   | 16    |

#### 4. Tasks for students` self-work study

| Themes   | Hours |
|--|-------|
| <b>Theme 1. What is logic?<br/>Brief history of logic.</b>               | 4     |
| <b>Theme 2. Concept.</b>   | 4     |
| <b>Theme 3. Proposition.</b>   | 4     |
| <b>Theme 4. Laws of logic.</b>   | 4     |
| <b>Theme 5. Syllogism.</b>   | 5     |
| <b>Theme 6. Methods of testing syllogisms.</b>                           | 6     |
| <b>Theme 7. Induction and deduction.<br/>Methods of inductive logic.</b> | 5     |
| <b>Theme 8. Logic of argumentation.</b>                                  | 6     |
| <b>Theme 9. Modern multidimensional<br/>and mathematical logic.</b>      | 4     |
| <b>Total</b>   | 42    |

7. **Individual research** work for the course of Logic isn't supposed.

## 8. Control methods

Current control

- Evaluation of students' knowledge on control program questions.
- Evaluation of practical tasks.
- Express-testing on the key-questions.

Final control (examination)

Evaluation of students' understanding theoretical and practical program material on the whole, their ability of creative using obtained knowledge and skills.

## 9. Calculation of the points

| T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | Total | Examina<br>tion | Total |
|----|----|----|----|----|----|----|----|----|-------|-----------------|-------|
| 5  | 5  | 5  | 5  | 5  | 20 | 5  | 5  | 5  | 60    | 40              | 100   |

The score on the national scale is set in accordance with the rating scale:

### Rating scale

| The sum of points for all types of educational activities during the semester | Score on a national scale     |                              |
|---|-------------------------------|------------------------------|
|   | for a four-level rating scale | for a two-level rating scale |
| 90-100  | excellent                     | pass                         |
| 70-89   | good                          |                              |
| 50-69   | satisfactorily                |                              |
| 0-49  | Not satisfactorily            | not pass                     |

## 10. Recommended literature

1. Biletsky Igor. Logic (Introduction) // Kharkiv, ФОП Петров В.В., 2018. – 60 p.

2. Deborah J. Bennett. *Language Deceives You Logic Made Easy: How to Know When* // W.W. Norton & Co, 2004. – 260 p.
3. Conradiem Willem, Goranko Valentin, Robinson Claudette. *LOGIC AND DISCRETE MATHEMATICS. A CONCISE INTRODUCTION, SOLUTIONS MANUAL* // Set in 9/11pt, PalatinoLTStd by Laserwords Private Limited, Chennai, India 1 , 2015. – 184 p.
4. Dov M. Gabbay, John Woods (eds.) *Handbook of the History of Logic. Volume 01: Greek, Indian and Arabic Logic* // Elsevier, 2004. – 620 p.
5. Dov M. Gabbay, John Woods (eds.) *Handbook of the History of Logic. Volume 02: Mediaeval and Renaissance Logic* // Elsevier, 2008. – 727 p.
6. Dov M. Gabbay, John Woods (eds.) *Handbook of the History of Logic. Volume 03: The Rise of Modern Logic: From Leibniz to Frege* // Elsevier, 2004. – 781 p.
7. Dov M. Gabbay, John Woods (eds.) *Handbook of the History of Logic. Volume 04: British Logic in the Nineteenth Century* // Elsevier, 2008. – 751 p.
8. Dov M. Gabbay, John Woods (eds.) *Handbook of the History of Logic. Volume 05: Logic from Russell to Church* // Elsevier, 2009. – 1069 p.
9. HOWARD HAUSMAN ALAN BOARDMAN FRANK KAHANE. *LOGIC AND PHILOSOPHY : a modern introduction* // HACKETT, 2021. – 467 p.
10. Jacquette D. *Philosophy of Logic* // North Holland, 2006. – 1197 p.
11. Itamar Levi, Alexander Fish. *Dual Mode Logic: A New Paradigm for Digital IC Design* // Springer, 2021. – 185/191 p.
12. John MacFarlane. *Philosophical Logic: A Contemporary Introduction* // Routledge/Taylor & Francis Group, 2021. – 259 p.
13. Corry Shores. *The Logic Of Gilles Deleuze: Basic Principles* //Bloomsbury Academic/Bloomsbury Publishing, 2021. – 313 p.
14. Sider Theodore. *Logic for Philosophy* // 2009. – 376 p.
15. Zegarelli Mark. *Logic For Dummies* // Published by Wiley Publishing, Inc., Indianapolis, Indiana, 2007. – 362 p.

#### **11. Information resources:**

1. Site of the the Vernadsky's Ukrainian National Library (Офіційний сайт Національної бібліотеки України імені В.І. Вернадського), URL: <https://www.nbuv.gov.ua>
2. Electronic Library of the Skovoroda's Institute of Philosophy (Електронна бібліотека матеріалів з філософії Інституту філософії ім. Г.С.Сковороди), URL: <https://www.filosof.com.ua/links.htm>
3. Site: The Gutenberg Project, URL: <https://www.gutenberg.org/ebooks>
4. Site: zlibrary , URL: <https://ua1lib.org>