



Syllabus Course Program



Intellectual property for security systems

Specialty

113 Applied mathematics

Institute

Educational and Scientific Institute of Computer Science and Information Technology

Educational program

Intelligent Data Analysis

Department

Cybersecurity

Level of education

Bachelor's level

Course type

Special (professional), Selective

Semester

6

Language of instruction

Ukrainian

Lecturers and course developers



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Candidate of economic sciences, associate professor of the department of cybersecurity of National Technical University "Kharkiv Polytechnic Institute".

The author of more than 30 publications: of them 3 monographs in co-authorship and 1 handbook with a neck. Leading lecturer in the disciplines: "Intellectual property of security systems", "Legal regulation of cyber security", "Strategic communications in conditions of hybrid warfare", "Fundamentals of systems theory and system analysis".

[Детальніше про викладача на сайті кафедри](#)

General information

Summary

The educational discipline "Intellectual property of security systems" is an optional educational discipline. The study of the discipline is aimed at the acquisition by students of universal professional competences in the use of intellectual property objects in the activities of the enterprise.

Course objectives and goals

Mastering the necessary knowledge of the system of intellectual and industrial property in invention and patent-licensing activities, methodological foundations of the creation of objects of industrial property and engineering psychology, protection of patent rights, international cooperation in the field of intellectual property, copyright and related rights, as well as the system of patent information ; the ability to use regulatory and legal acts in practice to ensure legal protection of scientific and technical achievements and creative products, to conduct patent and information research in a certain field of technology, to find analogues and to issue an application for an object of industrial property.

Format of classes

Lectures, laboratory classes, consultations, self-study. Final control in the form of an credit test.

Competencies

GC 2. Ability to apply knowledge in practical situations.

GC 6. Ability to abstract thinking, analysis and synthesis.
GC 8. Knowledge and understanding of the subject area and understanding of professional activity.
GC 9. Ability to communicate with representatives of other professional groups of various levels (with experts from other fields of knowledge/types of economic activity)
GC 10. Skills in the use of information and communication technologies.
GC 13. Skills of interpersonal interaction.
SC 7. The ability to solve professional tasks using computer equipment, computer networks and the Internet, in the environment of modern operating systems, using standard office applications.
SC 9. Ability to use modern technologies of programming and software testing.
SC 11. The ability to create documents of established reporting, use of regulatory and legal documents.
SC 12. The ability to organize the work of a team of performers, make appropriate and economically justified organizational and management decisions, ensure safe working conditions.

Learning outcomes

LO 14. Demonstrate the ability to self-study and continue professional development.
LO 15. To be able to organize one's own activities and obtain results within a limited time frame.
LO 16. Demonstrate the skills of interaction with other people, the ability to work in a team.
LO 18. Effectively communicate information, ideas, problems and solutions with specialists and society in general.
LO 19. Collect and interpret relevant data and analyze complexities within their specialization to make judgments that reflect relevant social and ethical issues.

Student workload

The total volume of the course is 90 hours (3 ECTS credits): lectures - 28 hours, practical classes - 16 hours, self-study - 46 hours.

Course prerequisites

"Jurisprudence".

Features of the course, teaching and learning methods, and technologies

In the course of teaching the discipline, the teacher uses explanatory-illustrative (informational-receptive) and reproductive teaching methods. Presentations, conversations, and master classes are used as teaching methods aimed at activating and stimulating the educational and cognitive activities of applicants.

Program of the course

Topics of the lectures

Topic 1. The concept of intellectual property and the system of its legal protection.

Tasks of the academic discipline. The structure and content of the discipline, its connection with other disciplines. Concept of intellectual activity and its result. Functions of civil law regarding the protection and use of the results of intellectual activity and means of individualization equated to them. Reflection in the general rules of civil law features of intellectual activity and its results. Special institutes of civil law mediating intellectual activity and its results. Interrelation of special institutes of civil law mediating intellectual activity and its results.

Topic 2. Legal nature of intellectual property rights.

The concept of intellectual property, the relationship between intellectual property rights and property rights. Legal nature of intellectual property. Legal protection of intellectual property. Objects of intellectual property rights. Subjects of intellectual property law. Intellectual property and obligation law. The concept of ownership and use.

Topic 3. Basic institutions of intellectual property law.

Terms. Copyright and related rights. Patents and related concepts. Means of individualization of goods and services. Non-traditional results of intellectual activity.

Topic 4. Concepts and signs of the object of copyright.

Concept of copyright object. Signs of the object of copyright. The value of the work. Legal significance of individual elements of the work. Works that are objects of copyright. Works that are not objects of copyright.

Topic 5. Subjects of copyright. Authors' rights.

Primary and derivative subjects of copyright. Subjects of copyright according to law and contract. Domestic and foreign citizens as subjects of copyright. The authors of the work. Occurrence of copyright in the creator of the work. Translators as subjects of copyright. Co-authorship. Other subjects of copyright. Authors' rights. Personal non-property rights of authors. Property rights of authors. Copyright term.

Topic 6. Transfer of property copyrights.

Disposal of property copyrights. Copyright agreement. Related rights. Executor's rights. Collective management of copyright and related rights. Mechanism of creation, functions and duties of collective rights management organizations.

Topic 7. Protection of copyright and related rights.

Violation of copyright and related rights. Jurisdictional form of protection of copyright and related rights. Ways of civil protection of copyright and related rights. Administrative and criminal liability for violation of copyright and related rights.

Topic 8. General concepts of law and its systems. Concept, subject and principles of patent law.

General concepts of law and its system. Subject and principles of patent law.

Topic 9. The system of sources of patent law and its connection with civil, administrative, economic and criminal law.

System of sources of patent law. Multilateral international treaties in the field of industrial property, to which Ukraine is a party. Bilateral international agreements of Ukraine on cooperation in the field of industrial property protection. List of normative acts of Ukraine in the field of protection of intellectual property rights. Patent law and its relationship with civil, administrative, economic and criminal law.

Topic 10. Objects of patent law.

Objects of the invention (utility model). Concepts and features of the invention (utility model). Novelty, concept of prior art, priority and order of its establishment, novelty benefit, inventive step, industrial applicability. Basic requirements for objects of patent law.

Topic 11. Subjects of patent law.

Authors of inventions, utility models, industrial designs. Rights and obligations of patent owners. Service inventions. Rights and obligations of heirs. Purpose, structure and tasks of the patent office in Ukraine. Intellectual property representatives (patent attorneys).

Topic 12. Protection of rights to objects of industrial property. Ways of protecting rights.

Patent as a form of protection of industrial property objects. Content of patent rights. Ways of protecting patent rights to an invention (utility model, industrial design).

Topic 13. International system of protection of industrial property objects.

The main tasks and principles of the World Intellectual Property Organization. Agreements providing protection of industrial property. Paris Convention on the Protection of Industrial Property. Basic principles. Washington Treaty on Intellectual Property Regarding Integrated Circuits. Agreement on Laws Concerning Trademarks. Agreements that make it easier to obtain industrial property protection in several countries and affirm international classifications.

Topic 14. Registration of patent rights in foreign countries.

Registration of patent rights in Ukraine. Registration of patent rights in foreign countries. Patenting of inventions in accordance with the requirements of various patent conventions. Patenting of inventions in accordance with the requirements of the Patent Cooperation Treaty (PCT). Patenting of inventions in accordance with the requirements of the European Patent Convention (EPC). Patenting of inventions in accordance with the requirements of the Eurasian Patent Convention (EAPC).

Topics of the workshops

Topic 1. Rules for drawing up and submitting an application for an invention and an application for a utility model.

Topic 2. Details of the current accounts of the examination institution - SE "Ukrpatent", to which fees are paid for actions related to the protection of rights to intellectual property objects.

Topic 3. Carrying out a search for legal acts confirming intellectual property rights. A computer program is a special object of copyright.

Topic 4. Carrying out a search for legal acts confirming intellectual property rights. Introduction of programs into economic circulation.

Topic 5. Means of individualization.

Topics of the laboratory classes

This field is filled in the same way if the curriculum laboratory classes.

Self-study

A student's independent work is one of the forms of organization of learning, the main form of mastering educational material in free time from classroom training. During independent work, students study lecture material, prepare for laboratory work, control work and credit test.

Course materials and recommended reading

Basic literature:

1. Website of the World Intellectual Property Organization (WIPO)

<https://www.wipo.int/portal/en/index.html>

2. State Enterprise "Institute of Intellectual Property" // [Electronic resource].

Access mode: <https://ukrpatent.org/uk>

3. Popova L.M. Intellectual property: textbook / L.M. Popova., A.V. Khromov, I.V. Fur coat: Kharkiv, "Fedorko", 2021, p. 262.

https://fpk.in.ua/images/biblioteka/3bac_pravo/Book_2021_Popova_Intelektualna_vlasnist.pdf

4. On copyright and related rights: Law of Ukraine, version dated April 15, 2023, No. 2811-IX.

<https://zakon.rada.gov.ua/laws/show/2811-20#n855>

5. Synergy of building cybersecurity systems: monograph / S. Yevseiev, V. Ponomarenko, O. Laptiev, O. Milov and others. - Kharkiv: PC TECHNOLOGY CENTER, 2021. - 188 p.

<https://drive.google.com/drive/u/1/folders/1wOTN8N-GBGO06AnvjQHU1SdBl3xCaUju>

6. Models of socio-cyber-physical systems security: monograph / S. Yevseiev, Yu. Khokhlachova, S. Ostapov, O. Laptiev and others. - Kharkiv: PC TECHNOLOGY CENTER, 2023. - 168 p.

<https://drive.google.com/drive/u/1/folders/1wOTN8N-GBGO06AnvjQHU1SdBl3xCaUju>

7. Modeling of security systems for critical infrastructure facilities: monograph / S. Yevseiev, R. Hryshchuk, K. Molodetska, M. Nazarkevych and others. - Kharkiv: PC TECHNOLOGY CENTER, 2022. - 196 p.

<https://drive.google.com/drive/u/1/folders/1wOTN8N-GBGO06AnvjQHU1SdBl3xCaUju>.

Additional literature:

8. On amendments to some legislative acts of Ukraine regarding strengthening the protection of intellectual property rights: Law of Ukraine, version of March 20, 2023 No. 2974-IX.

<https://zakon.rada.gov.ua/laws/show/2974-20#Text>

9. On the protection of rights to inventions and utility models: Law of Ukraine, version of December 31, 2023 No. 3687-XII.

<https://zakon.rada.gov.ua/laws/show/3687-12#Text>.

Assessment and grading

Criteria for assessment of student performance, and the final score structure

Points are awarded according to the following ratio:

- laboratory work: 30% of the semester grade;
- independent work: 10% of the semester grade;
- control work: 20% of the semester grade;
- credit test: 40% of the semester grade

Grading scale

Total points	National	ECTS
90–100	Excellent	A
82–89	Good	B
75–81	Good	C
64–74	Satisfactory	D
60–63	Satisfactory	E
35–59	Unsatisfactory (requires additional learning)	FX
1–34	Unsatisfactory (requires repetition of the course)	F

Norms of academic integrity and course policy

The student must adhere to the Code of Ethics of Academic Relations and Integrity of NTU "KhPI": to demonstrate discipline, good manners, kindness, honesty, and responsibility. Conflict situations should be openly discussed in academic groups with a lecturer, and if it is impossible to resolve the conflict, they should be brought to the attention of the Institute's management.

Regulatory and legal documents related to the implementation of the principles of academic integrity at NTU "KhPI" are available on the website: <http://blogs.kpi.kharkov.ua/v2/nv/akademichna-dobrochesnist/>

Approval

Approved by

Date, signature

29.08.2024



Head of the department

Serhii YEVSEIEV

Date, signature

29.08.2024



Guarantor of the educational program

Olena AKHIEZER