Intellectual Property Protection: a Course Introduction

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Abstract

People involved in intellectual assets development, need to be familiar with the value they produce, and the legal frame and regulations applicable in the field. No one in the field of software development can protect himself and his products without the respective knowledge. As presupposed, to be known and this makes it pre-required by all and any partners. Thus, it is essential for our students to get familiar with the practical instruments and tools used in the field. This will allow them protect their work. The aim of the paper is to describe the new discipline introduced in our Master's program. In the discipline the national and European legislation are discussed but also the World Intellectual Property Organization legal theory is covered in a practical manner. We use a project-oriented approach, which aims in providing the students with real practical tools and instruments, get familiar and acquire experience on their use, but also build some theoretical background. The result should be applicable in their practice tools and instruments ready to protect their intellectual assets, and work.

Keywords

Intellectual property, intellectual assets, IP protection, course introduction

1. Introduction

Industrial development is increasingly driven by cooperation and technology transfer, including from scientific and research institutions, in order to meet the need to expand the knowledge base to make use of available opportunities for innovation and to develop competitive advantages, to maintain long-term growth. Within the European Union, one of the key priorities for long-term sustainable development is the technology transfer between universities, industry, and the corresponding need to identify levers to maximize the impact of this transfer [1].

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On the one hand, this presupposes the implementation of multidisciplinary research in the areas of interest; on the other hand, it presupposes an advanced technological culture and intellectual products. This determines the definition of the application of intellectual property law and in particular the identification of rights and rights holders, as well as legal restrictions and legal obligations arising from the integration of modern technologies in various professional fields, respectively in intelligent development and implementation or transfer of these technologies, as well as research of their subsequent use. Knowledge of intellectual property rights, as understood by modern legal science, is one of the factors that allow subjects to know the value (valuation) of their ideas, seek both scientific, and market realization for their valorization. At the same time, intellectual property law in itself seeks to identify new technologies and ensure their fair regulation, which presupposes working in coordination between technology experts and lawyers. Legal science itself is increasingly in need of explanation and definition of technical concepts in order to regulate emerging legal relationships and provide them with a proper legal regime, and in this connection, the need for a multidisciplinary approach and knowledge is inevitably identified. Incidentally, this need has long been known and imposed as a practice in the field of patents, where it has always worked until now in joint teams of experts with different qualifications and lawyers.

With these considerations in mind, the discipline created in such way aims to prepare future students to recognize the applicable legal models that could arise within their professional qualification. The target is to provide a general understanding of the legal system of intellectual and industrial property. Respectively subjective rights and recognized as possible behavior of the holder of subjective rights, as well as what is the possibility to request certain behavior from another entity. Based on subjective rights, this would allow knowing and developing topics related to the provision of legal services and tools, as well as the creation of policies, regulations and regimes of the information society. This would allow upgrading in the direction of technology transfer from academic projects to the market, respectively identification of research results with market potential, for which there is an opportunity to build a strategy for their protection as industrial property.

Achieving its subject, this discipline provides a general overview of the legal regulation of intangible assets. This legal regulation presupposes the knowledge of the legal norms that regulate industrial and intellectual property, as well as the development of rights in the online space in our days. In this sense, the discipline presents the general classical idea of the author's rights to various intangible objects and the relations with and in the society, respectively the relationships that are created. On the other hand, the discipline takes into account the fact of rapid technological development, which presupposes the development of legal regula-

tion in terms of realization of rights in a virtual environment. The model of legal relations to date is largely technologically determined and accordingly determines the matrix for the formation of models of legal relations. The existence of legal relationships that arise only in a virtual environment, related to information assets and digital content, which are becoming increasingly key in public life, is recognized. Such a development requires a multidisciplinary approach that combines the knowledge of classical legal science and the specialists working on the technical aspects of new technologies.

2. Basic definitions and discipline content

The aim of this course is to develop students' knowledge of the legal regulation of emerging relationships in real systems and application design, as well as their practical knowledge of access to existing databases and resources for preliminary study of regulated rights.

The program focuses on theoretical knowledge [2, 3, 4, 5, 6], but also provides practical tools [7] for the protection of rights to IAs.

3. General concept of legal theory and legal regulation

The development of the course takes into account the fact that usually people with education in mathematics and computer science have not undergone special training to enable them to know and deal with legal terminology and protect their subjective rights, especially in the specialized field of intellectual property. At the same time, they are the generators of the development of technology in the digital society and there is a growing need for a legal culture that is related to the protection and promotion of their intellectual property. This consideration is necessary because through the training an attempt will be made to build that system of knowledge, which would eventually be the sufficient theoretical preparation for the practical exercise of the rights arising from the creation of ideas. This would have an impact at the level of an individual subject, but also at the level of the academic community, as well as in terms of the training of personnel entering the world of industry and enterprises.

This understanding is the basis of the structure of the discipline, where in the first place will be presented the general concept of legal theory and legal regulation in the field of intellectual and industrial property, respectively registered and unregistered rights. To this end, the concepts related to the understanding of the origin and functioning of the legal system will be defined, in particular the systems for regulation of industrial and intellectual property at national [2], European [3, 4] and international level [5]. The training then develops within the defined industrial property rights, which are numerus clauses and are known in

all legal systems. These are patents, trademarks, industrial designs, geographical indications (designation of origin) – presented as regulating intangible assets that are related to industrial applications. The training also extends to the general concept of protection of intellectual property and the manner and procedure of protection provided by legal regulation, without state intervention in the registration of these rights, specifically with regard to copyright and related rights, with emphasis on computer programs and databases and expertise. In the following parts of the training, we focus on the understanding of the legal regulation of the emerging legal relations, placed in the specific context related to the subject matter of scientific achievements in the field of mathematics and informatics. Additional knowledge on legal institutions that are correlated with industrial and intellectual property rights is considered and provided. In this regard, emphasis is placed on five different aspects of the intellectual property rights, further developing and upgrading knowledge with various relatively recent phenomena of reality and their legal regulation. Namely: Trade secrets and unfair competition; Domains and rights for online protection; Licensing and transfer of know-how; Copyright in the digital environment and data protection, „Smart Contracts“, and Artificial Intelligence Regulation)

For each of the so-called registered rights (namely Patents, Trademarks, Industrial design and geographical indications), the scope of protection and the manner of its acquisition will be defined, respectively the concepts and rights that are covered will be defined, as well as the regulation of the acquired subjective rights – allowed and prohibited behavior, various legally recognized opportunities and legal obligations. This part aims to understand and distinguish the different forms of protection of industrially applicable innovations, and a comprehensive system that is built in connection with the protection of intangible assets, when their registration is recognized.

4. Patent and utility model

In particular, in this part, a definition of patent and utility model, concept of invention and patentability and scope of legal protection will be provided, the types of emerging rights and the means of their protection will be examined. The authorship will be considered in the context of patent law, the ways of obtaining a patent, the territorial and international protection system, the patent search system and the collaboration of patent attorneys, the basic principles of validity and valuation of the patent.

5. Trademarks and industrial design

This section will also discuss the concepts of trademarks; how to obtain a trademark registration, including nationally and internationally, the value of the trademark and the determination of its market power, the rights and protections provided by trademarks, search engines of trademarks in order to ensure legality in their use. In a similar way, following the same schema, the industrial design and the rights granted by it will be defined.

6. Ideas and authorship protection

This section will also look at how law protects ideas and authorship, even when this is not necessarily related to industrial applicability. The legal concept of copyright, the way it originates and the establishment / proof is presented. This raises the question of particular relevance to the way in which the law regulates and protects the creation of computer programs and databases, respectively the specifics of this protection at national, European and global level. Based on the general concept, the specifics of copyright on computer programs and the rights of producers and users of databases, copyright on the interface and design of websites, non-property and property rights of authors and the instruments for their protection.

7. Practical aspects of legal relationships

The general understanding and knowledge of the above legal instruments allows studying their manifestations when they are placed in a specific context, taking into account the likelihood of realization within a future engineering career or in the scientific field of mathematics and informatics. This determines the way in which the second part is modulated, where learning, real (practical) problems are solved, and the learning process can be described as problem-oriented. The conditionally designated "Second" part of the training is structured within the various legal relationships and areas of manifestation in which the objects of intellectual / industrial property are manifested. In particular, the right to confidentiality and trade secrets, respectively the loyalty of competition and its legal regime, will be considered here. These concepts are considered within the concept of due loyalty, including at the level of competition law and when there is a breach of loyalty rules and unauthorized use of data, information, rights or products. This will describe the legal understanding of trade secrets, confidentiality, and their protection. Practical aspects of trade secrets and confidentiality will be considered, such as patenting, or non-patenting of a product, method, etc., and the concept of the option contract will be presented.

8. Intellectual property rights on the Internet

The next (third) module is defined under the general title "Intellectual Property Rights on the Internet". The aim here is to present the way the established system for protection of intellectual and industrial property rights in the online environment works [6]. This is the place beyond the general understanding of trademarks and copyrights on the Internet, to develop further the legal regime of domains, the right to platforms, digital content, the protection of personal data in the digital environment, and cybercrime. The ICANN / Internet Corporation for Assigned Names and Numbers regulations for the domain, as well as the ".eu" domain regulation will be explicitly presented. The new EU regulations on copyright reform in the information society and the E-Commerce Act will be presented, including the provision of digital content and digital services and the sale of goods. The hypotheses of copyright infringement on the Internet, the way of protection of personal data and cybercrime, their common legal framework at national and European level will be considered. This will provide knowledge on the overall framework of rights to provide goods and services on the Internet, which is inextricably linked to the idea of information society, accessibility and common regulations.

9. Licensing and evaluation of rights

Next, the training will focus on the licensing and evaluation of rights; the transfer and use of rights; the concept of patent purity and how to enforce it; the strategies for managing intellectual property rights as a modern way to protect more and more the wide range of emerging rights in the implementation of innovations and ideas. An attempt will be made to acquaint students with the contractual relationships that most often occur in the field of intellectual property. Also the way they are structured, with the concept of license or transfer of rights, different possible types of transactions and opportunities which provide, the generation of profits from intangible assets and the manner and strategies for managing rights, as well as their evaluation.

10. Modern challenges

The last topic will focus on the legal regulation that exists regarding the development of technology and the way in which legal science tries to meet the challenges posed by objective phenomena. Such are new forms of contracts – technology transfer contracts, regulation on the so-called "Smart" contracts, the use of Blockchain technologies, the use of cryptocurrencies for payment and the regulation of artificial intelligence [6].

11. Course materials and structure

Through lectures, case studies, exercises, test examples and tasks students will acquire both basic knowledge and understanding of the key concepts, related to law regulation of public relations in the field of industrial and intellectual property and the regulation of information assets.

Within the course project, students will have to demonstrate practical skills through the realization of a working example of the application of procedures for search and protection of rights.

As a result, the students will be familiar with the frame of the created through their future work rights and will be able to require a fair balancing in the respective established relations both at individual and collective aspects.

12. Main materials

The main materials for the course are the materials related to the classical regulation of intangible rights. Such are the regulations of national [2] and European legislation [3]. Respectively is legal theory, such as WIPO Intellectual Property Handbook Policy, Law and Use by World Intellectual Property Organization [5], The Handbook of European Intellectual Property Management by Adam Jolly, Jeremy Philpott and others [4]. On the other new regulations in the context of technology and law, such as The Cambridge Handbook of Smart Contracts, Blockchain Technology and digital Platforms by Larry A. Di Matteo, Michel Cannarsa, Cristina Poncibo [6]. In this way, the currently available knowledge on the regulation of the right to IAs and technological transfer is presented.

13. Course structure

The main topics the course will cover are structured in 8 units, as the following table (Table 1) shows.

Table 1
Course structure – main topics

№	Topic
1	Basic concepts.
2	Patents. Scope of legal protection. Useful model. European & International protection system. Validity and value.
3	Trademarks. Use of foreign trademarks. Value and strength.
4	Copyright. Rights of database manufacturers. The non-property rights of the authors. Copyright protection on the interface and design of websites.
5	Industrial design rights. Value and strength.
6	Trade secrets. Unauthorized use or disclosure Unfair competition. Protection procedure
7	IP and the Internet. Right to the platforms and the Electronic Commerce Act. Cybercrime, trade secrets and hacking. Copyright in the digital environment. IP breach on the Internet.
8	IP as a revenue generator. Strategic patent management. The value of the patent as a judicial asset. Strategy decision-making. Copyright and revenue generation.
9	Technology and law. Digital goods and services. ”Smart contracts”. Data protection. Regulation of artificial intelligence.

14. Conclusions

The training is constructed by looking for the effect of systematic knowledge, including taking into account the legal phenomena that are usually not subject to territorial jurisdiction and are subject to regulation in both national and international contexts. General knowledge will be gained about the established system for protection of private subjective rights at the level of national regulation and at the level of international treaties. We will also look for the effect of applicability of the result, ie the level of knowledge that would be of interest from the point of view of future professional realization. The design of the training is adaptive, as in view of the covered legal institutes and the wide range of legal regulation. As well as the rapidly developing public relations, it is quite possible and desirable to focus and focus on a specific aspect of legal regulation, at the same time not violating the intensity and methodology of the training itself.

The aim is to obtain more knowledge that is specialized. It can be achieved by working with the various tools of legal science. It presupposes the development of specific skills and the recognition of various practical roles in the implementation of public relations. The integration of thinking and learning is stimulated, and accordingly a result is produced, which enables:

- to use, synthesize and manage different types of information for the successful implementation of services and products of the information society;

- to train students, systematically prepared to work in the field of innovation and technological challenges;
- to ensure access to and lawful use of intellectual and industrial property rights in the implementation of academic research projects, and
- to develop research and development projects at university level that have their proper implementation, sustainability of the achieved results, and end products that are protected from the point of view of the existing regulations and legal mechanisms.

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