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INTELLECTUAL PROPERTY EDUCATION IN ROMANIA. THE CASE OF STUDENTS WHO DO NOT FOLLOW A LEGAL SCIENCES SPECIALIZATION

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Abstract: *This article is a report on Intellectual Property Rights (IPR) education as part of the curriculum of different universities in Romania. In this context, as part of the ongoing research, a database was built on the structures that include IPR relative to in the management structures of the first ten universities in Romania. The motivation of the research resides in the need to investigate if there is a real ecosystem for the valorization of knowledge through technological transfer centers or through institutional policies, at the level of universities. The research presented in this article was carried out in the context of the ERASMUS+ project, Strategic Partnerships for Higher Education, with the title: Introducing Intellectual Property Education for Lifelong Learning and the Knowledge Economy (IPEDU, https://www.ipeduproject.eu/).*

Key words: *intellectual property, ipr, management, technology transfer, policies, higher education.*

1. INTRODUCTION

Higher education in Romania is organized in higher education institutions and universities, which have obtained provisional operation authorization or accreditation. Higher education institutions are education providers that carry out educational activities based on study programs authorized to operate provisionally / accredited in accordance with the law. University level training programs can be initial (bachelor's) and continuous training (master's degree, doctorate, postgraduate studies), through study programs that work on the principle of quality and correlation of the educational offer with the labor market.

All study programs authorized to operate provisionally / accredited can be found in the National Register of Qualifications in Higher Education (RNCIS). RNCIS is a database of the National Qualifications Framework in Higher Education (CNCIS) that establishes the structure of qualifications and ensures national recognition, as well as the compatibility and international comparability of qualifications acquired in the higher education system.

Through it, all the learning outcomes acquired in the higher education system (Bachelor, Master and Doctoral study cycles) can be recognized, measured and related, and the coherence of qualifications and certified degrees is ensured. CNCIS respects the traditions and experience of Romanian higher education and is compatible with the General Qualifications Framework of the European Higher Education Area taking into account the European Commission's documents on the elaboration of the European Qualifications Framework in the perspective of lifelong learning.

2. RESEARCH METHODOLOGY

In preparing this report, the team conducted research of the RNCIS database regarding the study programs that have competencies in the field of intellectual property [1].

At the level of the higher education system in Romania there are 47 civilian state higher education institutions, 7 military state higher education institutions and 31 private civilian higher education institutions, with a total of

4,645 qualifications, attested by diplomas and supplements at diploma.

The following information was collected from the diploma supplement: name of qualification and (if applicable) title awarded (after passing the final examination), field of study, program of study, learning outcomes of the study program, professional competences, transversal competences, and Name of the subject subject. Learning outcomes mean what the learner recognizes, understands and can do at the end of the learning process. These are defined in the form of knowledge, skills and competences. Limits of search for study programs that have competencies in the field of intellectual property, given the purpose of the project, have been established at civil polytechnics and technical faculties from other civil, state or private universities. Search level: postgraduate (PU), master (M) and bachelor (L).

3. RESEARCH RESULTS

Based on the "Diploma Supplement" documents from RNCIS [1], each team member ordered by table the information by institutions, field of study and level of studies, showing next to each position the name of the course (if any) and the competences in the field of intellectual property (where are passed). These results are attached to this report.

Table 1

Areas of study containing IP courses.

Field	Number of research programs studies	From which:	
Bachelor	301	7 contain IP courses	5 courses also have IP skills
		48 contain courses that may contain IP elements	
		246 that do not contain IP courses or courses that may contain IP elements	
Master	331	17 contain IP courses	35 courses also have IP skills
		49 contain courses that may contain IP elements	
		265 that do not contain IP courses or courses that may contain IP elements	
Post-university	1	1 entitled: Obtaining, protecting and marketing industrial property rights	

The results can be presented in Table 1.

Courses identified in the field of IP:

- Industrial property;
- Industrial property law;
- Knowledge capitalization and industrial property.

The rest of the courses are in a wider area, that of intellectual property:

- Intellectual property and entrepreneurship;
- Protection of intellectual property;
- Intellectual property legislation and innovation;
- Management of intellectual property protection;
- Intellectual property management;
- Invention and intellectual property;
- Intellectual property and capitalization of knowledge;
- Innovation and intellectual protection;
- Entrepreneurship, protection of intellectual property and dissemination in research;
- Professional ethics and intellectual property.

The courses identified as possible to contain IP elements are:

- Technical creativity;
- Creativity and invention;
- Creativity and innovation;
- Engineering creativity;
- Creativity and value engineering;
- Creativity and innovation techniques;
- Innovation;
- Systemic innovation;
- Innovation and technology transfer;
- Process innovation;
- Innovation and technological development in industrial organizations;
- Innovation and industrial research;
- The practice of innovation;
- Innovation Management and Strategic Management;
- Creativity management;
- Innovation management and marketing;
- Technology and innovation management;

- Innovation management;
- Management of research - development - innovation projects;
- Strategic and risk management of innovative companies;
- Management of technical documents;
- Concurrent engineering and innovation management;
- Product value engineering;
- Value analysis and technical creativity;
- Technological design and creativity;
- Designing innovative products;
- Development of innovative products and services;
- Innovative manufacturing for product development;
- Technology transfer and capitalization of innovation;
- Creative industries;
- Scientific research activity;
- Research strategy - Scientific creativity;
- Innovation and sustainable industrial research;
- Innovative entrepreneurial development;
- Entrepreneurship and digital innovations for the business environment;
- Entrepreneurship and innovation;
- Policies, funding programs for technological development and innovation.

Competences identified in the subject sheets cover a very general framework and are set out in the form of:

a) acquiring advanced knowledge in the field of intellectual property, innovation, and entrepreneurship;
b) the capacity to identify, formulate and solve the problems specific to intellectual property, innovation, and entrepreneurship;
c) mastery of advanced research methods and techniques.
d) skills for documenting, elaborating, and capitalizing on scientific papers;
e) skills in making a patent proposal;
f) the ability to generate ideas and alternative solutions;
g) ability to attract partners in innovative projects;
h) understanding and current use of terms and concepts from the literature, ability to work in innovative teams, using modern research and development methods and knowledge about intellectual property;
i) the use for creative and innovative purposes of basic knowledge in the modelling, design and operation of equipment and installations;
j) application, in the context of compliance with the law, of intellectual property rights (including technology transfer), of the product certification methodology;
k) the ability to search for European, American, and Japanese patents;
l) elaboration of a patent for invention for filing with OSIM or EPO;
m) creating and submitting a possible trademark to OSIM.

4. TOP ROMANIAN UNIVERSITIES FRAMEWORK FOR IPR

Many Romanian Universities have an administrative structure backed by policies aiming intellectual property protection. The following information is based on the existing policies and institution bodies managing IPR in the top ten Romanian universities according to the Romanian Annual National Metaranking for year 2021 [2]. The data was collected from every university webpage analyzing the research department pages, existing strategy documents provided these exist, and general search using search tools available. Where the institution is not exposing a dedicated department, office, or policy, it is right to assume the following national body of legislation is enforced [3-7].

Babeş-Bolyai University, Cluj-Napoca

Babes-Bolyai University (UBB) has a Policy for intellectual property [8] stating what and in which condition UBB IPR is managed. The administrative body is The Office for Management Cognition and Technology Transfer.

Bucharest University

Bucharest University (UB) has a General Objective - IV. Innovation and adaptation - in The Development Strategy 2020 - 2023 [9] with a specific objective to "encourage efficient innovation" (IV.10.2. and IV.10.3.) which includes the IPR and valorization component.

University Politehnica of Bucharest

University Politehnica of Bucharest (UPB) manages all the IPR on the bases of Policy of UPB for IPR [10] enacted through the Service for Innovation and Technology Transfer (SITT) [11].

"Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca

Apparently UMF Cluj doesn't have a dedicated structure for IPR management, hence the national law is enforcing the valorisation and protection activities.

Alexandru Ioan Cuza University of Iasi

Apparently, Alexandru Ioan Cuza University of Iaşi (UAIC) doesn't have a dedicated structure for IPR management, hence the national law is enforcing the valorization and protection activities. One development should be taken into consideration. In 2018, a project called "Development of innovation capacity and raising the impact of UAIC research of excellence" (34PFE/19.10.2018) had objectives covering IPS in the form of technology transfer. A course was developed in 2020 converting IPR issues [12]. Technology transfer and entrepreneurial initiative are also mentioned in UAIC Strategic Plan for Institutional Development 2021 - 2024, research dedicated chapter [12].

University Transilvania of Brasov

University Transilvania of Brasov (UNITBV) manages the IPR using an administrative structure called Intellectual Property Bureau (support body) as part of the research and innovation management unit [13]. There is another support body in the name of Business and Technology Incubator that permeates the issues of IPR [14].

West University of Timisoara

West University of Timisoara (UVT) develops a Center for Technology Transfer and Innovation within the Institute for Environment Advanced Research (ICAM) [15]. This administrative body has set responsibilities concerning IPR management [15].

University of Medicine and Pharmacy "Carol Davila" Bucharest

University of Medicine and Pharmacy "Carol Davila" Bucharest (UMF Bucharest) mentions IPR related activities in the Charter, Art. 15 (i) and Art. 18 (e).

Technical University of Cluj-Napoca

Knowledge and Technology Transfer Centre is the body set by Technical University of Cluj-Napoca (UTCN) with aid received from the State Office for Inventions and Trademarks (OSIM). Within this structure functions Cluj Regional Center for Promoting the Industrial Property (CRPPI - PATLIB CLUJ), a dedicated entity for IPR management of UTCN [16].

Gheorghe Asachi Technical University of Iasi

Gheorghe Asachi Technical University of Iasi has a support centre ACCESS2020 helping with the IPR issues [17].

5. CONCLUSIONS

Although 631 engineering study programs have been identified and studied, only 24 of them contain courses on intellectual property, of which only 3 are specialized in the field of industrial property (IP), Table 1.

These results support the importance of conducting a specialized course in industrial property whose target group is students, masters of engineering.

The universities have begun to lay in their organizational fabric administrative structures designed to council, and in some cases train the professors and students or to guide on how to abide to legal requirements concerning Intellectual Property Rights. Study programs and administrative context form a complementary framework for a true valorization of knowledge in the Romanian universities.

Future research will be focused on development of a training program in the field of IPR (as suggested by [18,19]). Also, the contractual framework of university-industry collaboration [20] could offer a much realistic research context. The intention is to measure the approach positive impact on the companies' quality and performance management [21-23].

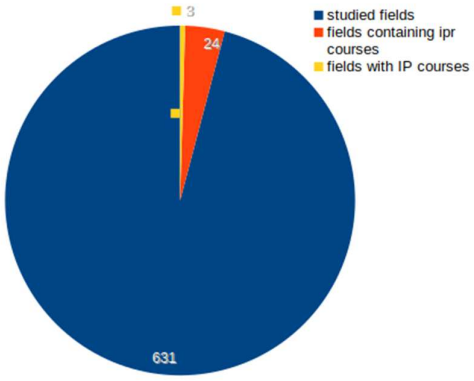

Fig. 1. Study programs

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Educația proprietății intelectuale în România. Cazul studenților care nu urmează o specializare de științe juridice

Rezumat: Acest articol este un raport privind educația în domeniul Drepturilor de Proprietate Intelectuală (DPI) ca parte a curiculei diferitelor universități din România. În acest context, ca parte a cercetării derulate, a fost construită o bază de date privind structurile care includ DPI relative la în structurile de management ale primelor zece universități din România. Motivația cercetării rezidă din necesitatea de a investiga dacă există un ecosistem real pentru valorizarea cunoașterii prin intermediul centrelor de transfer tehnologic sau prin politici instituționale, la nivelul universităților. Cercetările prezentate în aceast articol au fost realizate în contextual derulării proiectului ERASMUS+, Parteneriate Strategice pentru Învățământ Superior, având titlul: „Introducerea educației privind proprietatea intelectuală pentru învățarea pe tot parcursul vieții și economia cunoașterii" (Introducing Intellectual Property Education for Lifelong Learning and the Knowledge Economy – IPEDU, https://www.ipeduproject.eu/).

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