The English versions are translations of the Polish documents; the binding document is the Polish version. The English translations reflect the content of the Polish documents; however, all forms for the Doctoral School at Jan Kochanowski University must be completed in Polish.

Annex to Resolution No. 23/2023

EDUCATION PROGRAM AT THE DOCTORAL SCHOOL JAN KOCHANOWSKI UNIVERSITY IN KIELCE

1. Program applicable to doctoral students enrolled in the Doctoral School of Jan Kochanowski University in Kielce from the academic year 2023/2024 onward

The educational program at the Doctoral School of Jan Kochanowski University in Kielce is implemented within five disciplinary sections, across scientific and artistic fields:
Section of Humanities:

Discipline: History,
Discipline: Linguistics
Discipline: Literary Studies
Section of Medical and Health Sciences

Discipline: Medical Sciences
Discipline: Health Sciences
Section of Social Sciences

Discipline: Political and Administrative Sciences
Discipline: Legal Sciences
Discipline: Security Sciences
Discipline: Pedagogy
Discipline: Communication and Media Studies
Discipline: Management and Quality Studies
Section of Exact and Natural Sciences

Discipline: Biological Sciences
Discipline: Chemical Sciences
Discipline: Physical Sciences
Discipline: Earth and related Environmental Sciences
Section of Arts

Visual Arts and Artwork Conservation
Musical Arts

2. Education at the Doctoral School is conducted in Polish, except for courses delivered in English within specific disciplines as determined by a resolution of the Scientific Council of the Doctoral School.

These courses are outlined in the organization of classes, which is made available on the Doctoral School's website (currently: https://sd.ujk.edu.pl/) prior to the beginning of each academic year.

3. The provision in point 2 does not apply to the discipline of Physical Sciences, where education is conducted exclusively in English.

4. DURATION OF STUDIES: 4 years

5. FIELD OF SCIENCE OR ARTS*: Humanities, Medical and Health Sciences, Social Sciences, Exact and Natural Sciences, Arts.

6. SCIENTIFIC OR ARTISTIC DISCIPLINE*: History, Linguistics, Literary Studies, Medical Sciences, Health Sciences, Political and Admistrative Sciences, Legal Sciences, Security Sciences, Pedagogy, Communication and Media Studies, Management and Quality Studies, Biological Sciences, Chemical Sciences, Physical Sciences, Earth and related environmental sciences, Visual Arts and Artwork Conservation, Musical Arts.

*The Doctoral student selects one of the listed fields/disciplines.

7. TOTAL NUMBER OF HOURS CONDUCTED WITH THE DIRECT PARTICIPATION OF ACADEMIC TEACHERS OR OTHER INSTRUCTORS: at least 500 hours
8. The educational program at the Doctoral School is aimed at acquiring disciplinary and domain-specific specialist knowledge and gaining competencies and skills that enable the creation and dissemination of new knowledge based on original research or artistic/project-based activity. This encompasses broadly understood scientific/artistic communication (including in English), commercialization of research results or artistic/project outcomes, research/artist/designer ethics, obtaining funding for scientific or artistic/project-based activity, and managing scientific or arts-related projects.

   In terms of didactic competencies, the program aims to equip graduates with knowledge and skills in modern teaching methods, including conducting various types of classes at a higher education institution.

Explanation of Symbols:
SD (before the underscore) – Learning outcomes specific to the Doctoral School
W – Knowledge category
U – Skills category
K – Social competencies category
01, 02, 03 and the following – Learning outcome number

1. LEARNING OUTCOMES:

Symbols of learning outcomes	Upon completion of the education, the graduate:	Reference of learning outcomes to:	
		universal characteristics for level 8 of the Polish Qualifications Framework (Act on the Integrated Qualifications System)	characteristics of the second degree of learning outcomes for qualifications at level 8 of the Polish Qualifications Framework (Regulation of the Ministry of Science and Higher Education)
in the area of KNOWLEDGE			
SD_W01	The doctoral student possesses in-depth knowledge of the latest scientific or artistic achievements, encompassing theoretical foundations, general issues, and selected specific topics relevant to the scientific or artistic discipline in which the doctoral dissertation is being prepared	P8U_W	P8S_WG
SD_W02	The doctoral student has advanced knowledge of development trends in disciplines related to the research or artistic/project theme being pursued	P8U_W	P8S_WG
SD_W03	The docotral student has expanded knowledge of research methodologies or artistic methodologies, including statistical analysis of results.	P8U_W	P8S_WG
SD_W04	The doctoral student has advanced knowledge of teaching methodologies for conducting classes at a higher education institution.	P8U_W	P8S_WG
SD_W05	The doctoral student has knowledge of preparing scientific publications or publications of artistic/project outcomes, including under the principles of open access.	P8U_W	P8S_WG

SD_W06	The doctoral student understands the economic, legal, and ethical contexts of research, artistic, or project activities, particularly in obtaining funding and designing research or artistic projects	P8U_W	P8S_WK
SD_W07	The doctoral student is able to formulate significant, current, and unresolved issues in the field of science or art in which they are studying, particularly in the discipline where the doctoral dissertation is being prepared, including in a foreign language.	P8U_W	P8S_WK
SD_W08	The dcotoral student has expanded knowledge of intellectual property law, basic principles of knowledge transfer to the economic and social spheres, commercialization of research or artistic/project results, and know-how associated with those results.	P8U_W	P8S_WK
in the area of **SKILLS**			
SD_U01	The doctoral student can define the goal and subject of research or artistic/project activities, as well as formulate research hypotheses in the discipline where the doctoral dissertation is being prepare	P8U_U	P8S_UW
SD_U02	The dcotoral student can create a research plan or an artistic/project activity plan, including advanced research procedures and an original research or artistic/project concept.	P8U_U	P8S_UW
SD_U03	The doctoral student is capable of utilizing knowledge from various disciplines to identify, formulate, and creatively solve complex problems or undertake research/artistic/project tasks.	P8U_U	P8S_UW
SD_U04	The doctoral student can evaluate the practical applications of scientific research results or artistic/project outcomes.	P8U_U	P8S_UW
SD_U05	The doctoral student is skilled in presenting research findings or artistic/project outcomes through oral presentations and written works, adhering to methodological, copyright, and ethical principles, as well as initiating scientific debates in international academic/artistic/project environments.	P8U_U	P8S_UK
SD_U06	The dcotoral student can disseminate research results or artistic/project outcomes through oral presentations and written works.	P8U_U	P8S_UK
SD_U07	The doctoral student can effectively use a foreign language in research, artistic, or project activities.	P8U_U	P8S_UK
SD_U08	The doctoral student can plan and execute research, artistic, or project initiatives of a national or international nature.	P8U_U	P8S_UO
SD_U09	The doctoral student is able to conduct research, artistic, or project activities within a team setting	P8U_U	P8S_UO
SD_U010	The doctoral student can plan their own competency development, actively work towards self-improvement, and inspire the development of others.	P8U_U	P8S_UU
SD_U011	The doctoral student can design and conduct educational activities, utilizing modern teaching methods and tools.	P8U_U	P8S_UU

in the area of **SOCIAL COMPETENCIES**			
SD_K01	The doctoral student can critically analyze their own contribution to the development of the discipline in which the doctoral dissertation is being prepared, as well as evaluate the scientific, artistic, or project-related achievements of other researchers, artists, or designers in the same discipline.	P8U_U	P8S_KK
SD_K02	The doctoral student is able to justify the significance of knowledge in addressing cognitive and practical problems	P8U_U	P8S_KK
SD_K03	The doctoral student can fulfill the obligations of a researcher and creator toward society, as well as initiate actions in the public interest	P8U_U	P8S_KO
SD_K04	The doctoral demonstrates entrepreneurial thinking and actively takes initiative.	P8U_U	P8S_KO
SD_K05	The doctoral student can independently conduct scientific research or artistic/project activities, adhering to the principles of public ownership of research results or artistic/project outcomes and ensuring intellectual property protection.	P8U_U	P8S_KR

2. COURSES ALONG WITH THE ASSOCIATED LEARNING OUTCOMES AND PROGRAM CONTENT:

	Subject	**Year/ number of hours/ form of assessment**	**Program content**	**Reference to learning outcomes in the program**
1. G E N E R A L C O U R S E S				
1.1	**Scientific communication** (for the sections: Humanities, Natural and Exact Sciences, Social Sciences, Medical and Health Sciences) **Communication in the field of art** (for the Arts section)	I/ 10/ assessment with a grade	Principles of publishing scientific research results or outcomes of artistic/project activities in open access mode, principles of preparing scientific publications, presenting research results or presenting outcomes of artistic/project activities, methods of disseminating knowledge.	SD_W05 SD_U05 SD_U06 SD_K01 SD_K05
1.2	**Ethics of scientific research and intellectual property protection** (for the sections: Humanities, Natural and Physical Sciences, Social Sciences, Medical and Health Sciences) **Ethics in the field of art and intellectual property protection** (for the Arts section)	I/ 10/ assessment with a grade	Principles of contemporary ethics. Ethics versus morality and other value systems. Functions of professional ethics and their determinants. The ethical values of science or art. Ethical responsibility in science or the arts – a code of ethics for scientists, international conventions. The concepts of industrial property protection and copyright. Personal and economic copyrights. Protection of databases, inventions, utility models and industrial designs. Trademarks. Combating unfair competition. Copyright agreements.	SD_W06 SD_W08 SD_U04 SD_K03 SD_K05

1.3	**Commercialization of research results** (for the sections: humanities, exact and natural sciences, social sciences, medical sciences, and health sciences) **Commercialization of artistic or design activities** (for the arts section)	I/ 10/ assessment with a grade	Scientific Research Results or Artistic/Design Activities as subject of Commercialization Methods of commercializing scientific research results or artistic/design activities in practice: indirect and direct commercialization, licensing. Creation of spin-off companies and types of entities. Conditions for knowledge and technology transfer. Academic entrepreneurship. Commercialization pathways. Criteria and methods for evaluating innovation projects.	SD_W08 SD_U04 SD_K02 SD_K05
1.4	**Teaching methodology** for Higher Education	I/ 15/ assessment with a grade	Methodology of Conducting Different Forms of Educational Activities, Including Laboratory Sessions, as well as Educational Activities Addressing the Special Needs of Artistically Gifted Individuals. Modern Teaching Methods: Project-Based Learning, Problem-Based Learning, Research-Based Learning, learning, e-learning, tutoring.	SD_W04 SD_U11 SD_K02
1.5	**Workshops on grant application**	I/ 10/ credit	Opportunities for obtaining funding for scientific research or artistic/project activities, the use of information systems enabling applications for funding for scientific research/artistic/project activities, the expenditure and settlement of funds for research or artistic/project activities, project management	SD_W06 SD_U08 SD_K04 SD_K05

1.6	**Philosophy / Economics****	III/ 20/ exam	***Philosophy:*** Socratic-Platonic philosophy; moderate realism; post-Aristotelian schools; early Christianity; philosophical views of St. Augustine; medieval philosophy (scholasticism); views of Thomas Aquinas; the Polish medieval school of the law of nations; anthropocentric philosophy of humanism and the Renaissance; Polish philosophy of the 16th and 17th centuries; the philosophy of R. Descartes and modern rationalism; socio-political thought in the philosophy of the Renaissance and Enlightenment; German philosophy: I. Kant and G. F. Hegel; main ideas of Polish Romanticism; selected issues in contemporary philosophy (existentialism, pragmatism, phenomenology, postmodernism); contemporary Polish philosophy: R. Ingarden, T. Kotarbiński, J. Tischner. ***Economy:*** Definition of the subject of economics; market, supply and demand – determining factors; elasticity of supply and demand; consumer behavior; the producer in the market, their role and functions; market structures; markets for production factors; market failure and externalities; macroeconomic accounts (national income accounts and their determinants); the state budget, budget deficit, public debt – basic dependencies and dilemmas; the money market and financial market institutions; unemployment and its effects on the economy; inflation, deflation, slumpflation, and stagflation; socio-economic development, economic growth, and the business cycle; economic policy of the state.	SD_W02 SD_W03 SD_U03 SD_U11 SD_K01 SD_K03
1.7	**Polish as a foreign language** (for international PhD students)	I-III/ 60/ assessment with a grade	Development of language skills in the field of grammar, communication in general and scientific language, development of skills in formulating and understanding oral and written statements.	SD_W07 SD_U07 SD_K02
2. DOMAIN SPECIFIC SUBJECTS IN THE SECTION				
2.1	**Statistical data analysis** (for the section: exact and natural sciences, social sciences, medical sciences, and health sciences)	I/ 20/ assessment with a grade	Basic concepts of statistics. Types of statistical methods in scientific research. Types of variables. Population versus sample. Sampling methods. Statistical characteristics and their types. The concept of the distribution of a statistical characteristic. Point and interval estimation. Statistical hypotheses. General principles of hypothesis testing. Type I and Type II errors. Statistical test power. Basic data operations (filtering, sorting, data export). Statistical description – selection, calculation, and interpretation of statistical measures, graphical presentation of data appropriate to their type and the measurement scale used. Assessment of distribution normality using graphical methods and formal statistical tests. Hypothesis testing for parameters of one or two populations. Student's t-tests. The use of parametric and nonparametric tests. Testing distribution conformity. Examination of characteristic independence. Statistical inference in correlation and regression analysis. Examples of the application of analysis of variance . Post-hoc tests.	SD_W03 SD_U02 SD_K05

	Language culture in scientific discourse (for the section of humanities disciplines)		Contemporary language norms and changes in linguistic customs; aspects of linguistic correctness in scientific texts; electronic tools enhancing the linguistic aspect of scientific work; linguistic persuasion in scientific practice; correctness and organizational culture in scientific presentations.	SD_W07 SD_U05 SD_U06 SD_K02 SD_K03
	Polish language culture in theoretical artistic discourse (for the Arts Section)		Contemporary language norms and aspects of linguistic correctness in scientific texts in artistic disciplines. Principles of editing scientific texts. Tools for editing texts that enhance the linguistic aspect of scientific work. Structure of scientific discourse in artistic disciplines and methods of presentation.	SD_W07 SD_U05 SD_U06 SD_K02 SD_K03
2.2	**Specialized English language**	I-II/ 40/ assessment with a grade	Practical use of the English language in research activities or artistic creation: presentation of scientific research results or effects of artistic/project activities in English, translation and writing of scientific or critical texts, specialized terminology for the scientific/artistic field.	SD_W05 SD_U05 SD_U06 SD_U07
2.3	**Modern research methods**	I/ 20/ assessment with a grade	Advanced experimental or numerical research methods and techniques specific to the field of scientific research.	SD_W02 SD_W03 SD_U03 SD_U11 SD_K02 SD_K03

	Marketing and management of artistic project (for the Arts Section)		Contemporary tools for promoting artistic and research-artistic achievements. Grant programs for artistic disciplines at the local, national, and European levels. Funding for artistic and research-artistic work in the field of art. Structure of an artistic, research-artistic project.	SD_W07 SD_U05 SD_U06 SD_K02 SD_K03
3.1 DISCIPLINARY SUBJECTS IN THE SECTIONS				
3.1.1	**Disciplinary seminar**	I-IV/ 60/ assessment with a grade	Division of scientific, artistic, or project work into research stages, review of the state of knowledge, tools facilitating the preparation of a literature review, presentation of scientific research results or artistic/project activities.	SD_W02 SD_W03 SD_W07 SD_U01 SD_U02 SD_U05 SD_K01 SD_K02
3.1.2	**Seminar and methodological consultations**	I-IV/ 160/ assessment with a grade	Individual work with a supervisor/co-supervisor in the scope of conducting scientific research or artistic/project activities, including the individual research plan, interim evaluation documentation, and preparation of the doctoral dissertation.	SD_W01 SD_W02 SD_W03 SD_W07 SD_U01 SD_U02 SD_U03 SD_U08 SD_U010 SD_K04
3.1.3	**Teaching practice**	I-III/ 35/ assessment with a grade	Conducting or co-conducting teaching activities.	SD_W04 SD_U011 SD_K01

3.1.4	**Scientific or Artistic internship**	I-IV/ 14 dni / confirmation of internship completion	Completion of at least a 14-day scientific/artistic internship during the entire course of study, included in the individual research plan.	SD_W02 SD_W03 SD_U07 SD_U08 SD_U09 SD_U010 SD_K04
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF HISTORY* **				
3.2.1	**Methodology of history and historical research methods**	The specificity of research methods in political, social, and economic history. History vs. historical memory. History vs. historical politics. Autobiographical narratives and the biographical method. In search of new research methods in contemporary humanities. Research techniques vs. research area.		SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Scientific editing**	Terminology in scientific editing. Theorists and practitioners: editorial art in a historical context. Issues of the layout and editorial preparation of different types of publications: source, collective work, monograph, biography, dictionary. Principles of text preparation and textual apparatus. Classification of publications and contemporary publishing guidelines		
3.2.3	**Historical statistics and demography**	Statistics and historical demography: research specificity and methods. Historical studies on consumption and standard of living. Economic determinants of the fate of Poles in the 19th and 20th centuries. Population/demographic issues of the Russian Empire and changes in demographic structures in the Empire. Population structure by gender and age as the basis for demographic analysis. Analysis of the natural movement of population in the Polish lands in the 19th and 20th centuries. Average life expectancy of the population in the Polish lands in the 19th and 20th centuries in a comparative European context. Population migrations. Social and professional structure of the population in the Polish lands in the 19th and 20th centuries.		
3.2.4	**Historiography**	Analysis of contemporary directions in historical research: From modernism to contemporary orientations in European historical science. Interdisciplinarity in the humanities. Anthropological inspirations in reflections on the past. Non-standard models of presenting the past in contemporary historical reflection. Research trends in contemporary humanities. Narrative and registrational sources – typological aspects and social functions – from antiquity to the Enlightenment. Medicine and care for the poor in the contexts of nature, astrology, and religion – from antiquity to the Enlightenment. The European Reformation and its social background – from Christian antiquity to the renewal of religious life in the 15th century.		
3.2.5	**Source workshops: from antiquity to the end of the 18th century**	Narrative and registrational sources – typological aspects and social functions – from antiquity to the Enlightenment. Medicine and care for the poor in the contexts of nature, astrology, and religion – from antiquity to the Enlightenment. The European Reformation and its social background – from Christian antiquity to the renewal of religious life in the 15th century.		

3.2.6	**Source workshops: 19th-20th Century**	Basic principles and rules for research and scientific work in the field of 19th-century history. Types of historical sources in the study of modern history. Characteristics of the scientific workshop of historians of the 19th and 20th centuries. Types, characteristics, and typology of historical sources. Internal and external criticism of sources. Interpretation of documents and source transmissions. Selection of research methods and tools. The process of establishing historical facts and reconstructing historical processes. Analysis of the content and cognitive value of manuscript, printed, iconographic, and digital sources. Practical exercises – working with manuscript, printed, and digital sources. Methods of verifying research skills.	

3.2.7	**Studies on historical discourse**	The concept of discourse; difficulties with its definition; studying the genesis, components of discourse, multiplicity of meanings. Linguistic turn (G. Frege, L. Wittgenstein, R. Rorty). Discursive turn (M. Foucault). Discourse studies. Variants of discourse (main criteria). Scientific discourse – objectives. Discourse analysis. Principles of discourse interpretation. Forms, practices. Criticism of contemporary humanistic discourse. Historical discourse. Public history. Analysis of contemporary concepts of historical discourse with particular emphasis on the new humanities. Historical discourse vs. counter-historical discourse. Persuasive lexical means in discourse. Multimodal discourse. Discourse in everyday communication. Features of digital discourse. Selected examples of contemporary historical discourses: Polish-Ukrainian discourse, Polish-German discourse, discourse on the Second Polish Republic, discourse on the People's Republic of Poland, Smolensk discourse, Croatian-Serbian discourse, Hungarian discourse on the “national grievance” in the 20th century.	
3.2.8	**Theory and philosophy of language**	The place of linguistics within the structure of science. Metalinguistics as reflection on methods of practicing linguistics. Paradigms of science and linguistic paradigms. Ontological status of language.	
3.2.9	**Social phenomena and issues of the 20th and 21st centuries**	Wars and their consequences. Demography, migration, and population movements in the 20th century. Urbanization and urban issues. Evolution of society. Marriage, children, youth, rebellion. Mass behaviors, mass culture. Transport, media, culture, health, science. Globalization and threats. Well-being, its creation, and crises. Divisions, conflicts, differences in the 20th century. Factors destabilizing the situation in Europe and the world in the 20th and 21st centuries.	
3.2. SPECIALIZED COURSES IN THE DISCIPLINE OF LINGUISTICS * **			

3.2.1	**Theory and philosophy of language**	The place of Linguistics within the structure of Science. Metalinguistics as a reflection on the methods of practicing linguistics. Paradigms of science and linguistic paradigms. The ontological status of language. Epistemology of linguistics. The cultural functions of language.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Studies on text and discourse**	The category of text and discourse in linguistic research. Text and discourse analysis – different approaches and research schools. Methods of discourse analysis. Discourse versus the genre of utterance and style. Variants of discourse.	
3.2.3	**Scientific workshops for linguists**	Characteristics of the language researcher's work. Preparation for scientific work. Principles of scientific writing (quoting, footnotes, bibliography). Analysis and selection of sources. Formulating critical judgments. Principles of funding scientific research	
3.2.4	**Text editing and scientific publishing**	Principles of Scientific Editing of Literary Texts. Presentation of concepts and terms used in textual studies and scientific editing. Characteristics of editorial procedures: methods of textual scholars and scientific editors. Critical preparation of the text.	
3.2.5	**Cultural linguistics**	1.The cultural character of language. Concepts: culture, folk culture, anthropological linguistics, cultural linguistics, cognitive linguistics. Ethnolinguistics and its relationship with ethnography, dialectology, and folklore studies. Ethnolinguistics in Poland. Slavic ethnolinguistics. Ethnolinguistics around the world. 2. The concept of the linguistic worldview. 3. Linguistic stereotypes. 4. Folk magic. Language taboos. The world of folk medicine. Health, illness, death in language and culture. 5. Axiology.	
3.2.6	**Monographic lecture**	Multifaceted presentation and analysis of a selected field of Linguistics by the lecturer.	
3.2.7	**Monographic lecture**	Multifaceted Presentation and Analysis of a Linguistic Field chosen by the Lecturer.	

3.2.8	**Lecture**	Multifaceted Presentation and Analysis of a Linguistic Field chosen by the Lecturer.	
3.2. SPECIALIZED COURSES IN THE DISCIPLINE OF LITERARY STUDIES * **			
3.2.1	**Literature** – contexts and correspondences	Modern and postmodern humanistic theories as a context for the interpretation of literary works (anthropology, psychoanalysis, feminism, postcolonial theories, and others). Contemporary approach to the issues of the correspondence of the arts and intersemiotic translation. The influence of new media on theoretical concepts in literature and other arts, as well as the directions of their correspondence. The impact of the theories of spectacle and performance on interpretive strategies in literature and its cultural contexts.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04

3.2.2	**Reading a literary work** – theory and practice of Interpretation	From classical interpretation to postmodernism. The cultural turn and its consequences in studying literary works. The diversity and multidirectionality of reading. Interpretative practices that activate different cultural contexts, allowing texts to be read in entanglements and connections with history, politics, and ideology. Reading and human experience: autobiographical context; reading in an intersemiotic, comparative, and intertextual context. The ethics of reading.	
3.2.3	**Text editing and scientific publishing**	Rules for the scholarly editing of literary texts. Presentation of terms and concepts used in textual criticism and scholarly editing. Characteristics of editorial procedures: methods of the textologist and scholarly editor. Critical preparation of texts.	
3.2.4	**Scientific workshops for literary scholars**	Characteristics of the scholarly work of a literary researcher. Preparation for academic work. Principles of scholarly writing (quoting, footnotes, bibliography). Analysis and selection of sources. Formulating critical judgments.	
3.2.5	**Theory and philosophy of language**	The place of linguistics in the structure of science. Metaliguistics as a reflection on the methods of practicing linguistics. Paradigms of science and linguistic paradigms. The ontological status of language. Epistemology of linguistics. Cultural functions of language	
3.2.6	**Monographic lecture**	Multifaceted analysis and interpretation of selected literary texts, connected with the presentation of the latest achievements in the humanities. Showing the contexts of the literary work (biography of the author, culture, era, philosophical trends, etc.).	
3.2.7	**Monographic lecture**	Multifaceted analysis and interpretation of selected literary texts, connected with the presentation of the latest achievements in the humanities. Showing the contexts of the literary work (biography of the author, culture, era, philosophical trends, etc.).	
3.2.8	**Monographic lecture**	Multifaceted analysis and interpretation of selected literary texts, connected with the presentation of the latest achievements in the humanities. Showing the contexts of the literary work (biography of the author, culture, era, philosophical trends, etc.).	
3.2. SPECIALIZED COURSES IN THE DISCIPLINE OF *MEDICAL SCIENCES* * **			
3.2.1	**Nutrition and nutritional therapy**	Principles of human nutrition at different stages of life and physiological states. Prevention and dietary treatment of the most common chronic non-communicable diseases. Public health issues arising from improper nutrition. Diagnosis of clinical malnutrition and qualification of a patient for nutritional intervention. Parenteral and enteral nutrition.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07
3.2.2	**Contemporary antibiotic therapy**	Microbial resistance to antibiotics. Classes of antibiotics currently used in therapy, their cellular targets, and the mechanisms by which bacteria defend themselves against a given antibiotic. Inhibition of cell wall synthesis. Disruption of cell membrane function. Antibiotics disrupting bacterial protein synthesis. Antibiotics disrupting DNA and RNA synthesis. Inhibitors of metabolic pathways. Strategies for the search for new antibacterial drugs.	SD_K04

3.2.3	**Immunology and vaccinology**	Types of immunity and types of immunization. Organization of vaccination in Poland. Mandatory and recommended vaccinations. Vaccinations for individuals at risk of infection due to their profession. Vaccinations for international travel. Basic principles of vaccine use. Indications and contraindications for vaccinations. Adverse vaccine reactions. Legal basis for the implementation of vaccinations. The importance of immunotherapy in the treatment of inflammatory and oncological diseases, advancements in oncology, and the treatment of cancer and inflammatory diseases through immunotherapy.	
3.2.4	**Medical law**	Medical standards in the practice of the medical profession. Organizational fault as a category of liability for healthcare providers. Professional deontology. The content of patients' rights to healthcare services of a specific quality. The patient as a consumer and a party to the contract with the doctor. The essence of the organization and conditions for providing healthcare services. Equal access to healthcare services in the Constitution of the Republic of Poland. The position of the payer of guaranteed benefits relative to the beneficiary and the patient. The system of universal health insurance. Consequences of refusal or delay in providing healthcare services. Criminal law aspects of the omission of providing healthcare services. Patient consent for healthcare services. Competitions for the provision of healthcare services as part of subcontracting. Clinical trials of medicinal products.	
3.2.5	**Clinical epidemiology**	The role, objectives, and tasks of epidemiology in modern medicine and health sciences, with particular emphasis on preventive medicine. Epidemiology of diseases based on available population data. Contemporary demographic processes and their impact on human health and the development of medicine. Basic indicators of population health; the importance of standardizing coefficients. Types, characteristics, and methodology of epidemiological studies, measurements, and indicators used in epidemiological research.	
3.2.6	**Molecular biology in medicine**	Genetic mechanisms of disease development, including hereditary, mitochondrial, cancer, allergic, viral, and immunological diseases. Genetic imprinting. Mechanisms regulating gene expression. Methods for the study and diagnosis of diseases at the genome, transcriptome, and proteome levels. The significance of molecular markers in the diagnosis and treatment of cancer and inflammatory diseases. The application of genetic research in modern medicine, gene therapies, basics of pharmacogenomics, and nutrigenomics.	

3.2.7	**Molecular basis of pancreatic diseases**	Physiology and pathophysiology of the pancreas, signaling pathways, biochemical and genetic mechanisms of pancreatic physiology. Characteristics of the pathomechanisms of acute pancreatitis, chronic pancreatitis, pancreatic cancer, diabetes, and cystic fibrosis. Hereditary diseases of the pancreas. The latest literature on genetic determinants in somatic and germline cells associated with pancreatic diseases. Epidemiology, risk factors, and etiological factors of pancreatic diseases. Diagnostics of pancreatic diseases, diagnostic markers. Standard treatment methods and modern targeted therapies, a literature review in search of clinical-phase research on pancreatic diseases.	
3.2.8	**Public health with elements of EU health policy**	The genesis, philosophy, subject, and scope of public health in the context of practical activities for the health of the population. Health protection systems around the world; their main features and principles of operation. Globalization – main transformation processes and the resulting challenges and threats to population health. The organization of healthcare in Poland, basic legal regulations for the functioning of the healthcare system. Benefits from the Social Insurance Fund. Main changes associated with the healthcare reform. Health economics. The National Institute of Public Health PZH, main tasks in implementing public health. The use of the Health – EU portal in promoting public health in the European Union.	

3.2.9	**Fundamentals of contemporary oncology with elements of personalized medicine.**	Epidemiology of cancers. Structure of incidence, trends in cancer incidence and mortality rates. Risk factors for cancer. Molecular foundations of carcinogenesis. Principles of cancer prevention and diagnosis. Treatment of cancers: surgery, radiotherapy, chemotherapy, hormone therapy, immunotherapy. Adverse symptoms of cancer treatment. Oncology rehabilitation. Precise diagnostic methods (molecular diagnostics, pathological tests). Selection of appropriate therapies for specific patient groups (personalized targeted therapy – "tailored to measure"). Molecular and biochemical markers enabling individualized therapy selection and the determination of prognostic factors.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF HEALTH SCIENCES* **			
3.2.1	**Medical law**	Medical standards in the practice of the medical profession. Organizational liability as a category of responsibility for entities engaged in medical activities. Professional deontology. The content of patient rights to healthcare services of specified quality. The patient as a consumer and party to the contract with the doctor. The essence of organizing and conditions for providing healthcare services. Equal access to healthcare services in the Constitution of the Republic of Poland. The position of the payer of guaranteed healthcare services in relation to the service recipient and the patient. The system of universal health insurance. Consequences of refusal or deferral of healthcare services. Legal and criminal perspective on the omission of healthcare service provision. Patient consent for healthcare service provision. Competitions for providing healthcare services within subcontracting. Clinical trials of medicinal products.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Clinical epidemiology**	The role, objectives, and tasks of epidemiology in contemporary medicine and health sciences, with particular emphasis on preventive medicine. Epidemiology of diseases based on available population data. Contemporary demographic processes and their impact on human health and the development of medicine. Basic health indicators of the population; the importance of standardizing coefficients. Types, characteristics, and methodology of epidemiological studies, measurements, and indicators used in epidemiological research.	
3.2.3	**Molecular biology in medicine**	Genetic mechanisms of disease development, including hereditary, mitochondrial, cancerous, allergic, viral, and immunological diseases. Genetic imprinting. Mechanisms regulating gene expression. Methods of disease diagnosis and research at the genomic, transcriptomic, and proteomic levels. The importance of molecular markers in the diagnosis and treatment of cancer and inflammatory diseases. The application of genetic research in modern medicine, gene therapies, basics of pharmacogenomics, and nutrigenomics.	
3.2.4	**Public Health with elements of EU health policy.**	Genesis, philosophy, subject, and scope of public health in the context of practical activities for the health of the population. Healthcare systems in the world; their main features, operating principles. Globalization – main processes of change and the resulting challenges and threats to public health. Organization of healthcare in Poland, basic legal regulations for the functioning of the healthcare system. Services from the Social Insurance Fund. Major changes associated with healthcare reform. Health economics. The National Institute of Public Health – PZH, main tasks in the realization of public health. The use of the Health-UE portal in promoting public health in the European Union.	

3.2.5	**Molecular basis of pancreatic diseases**	Physiology and pathophysiology of the pancreas, signaling pathways, biochemical and genetic mechanisms of pancreatic physiology. Characteristics of the pathomechanisms of acute pancreatitis, chronic pancreatitis, pancreatic cancer, diabetes, and cystic fibrosis. Hereditary pancreatic diseases. The latest literature reports on genetic determinants in somatic and germline cells related to pancreatic diseases. Epidemiology, risk factors, and etiological factors of pancreatic diseases. Diagnostics of pancreatic diseases, diagnostic markers. Standard treatment methods and modern targeted therapies, a review of the literature in search of studies in the clinical phase of pancreatic disease therapies.	
3.2.6	**Fundamentals of contemporary oncology with elements of personalized medicine.**	Epidemiology of cancers. Structure of incidence, trends in morbidity and mortality rates. Risk factors for cancer diseases. Molecular foundations of carcinogenesis. Principles of cancer prevention and diagnosis. Cancer treatment: surgery, radiotherapy, chemotherapy, hormone therapy, immunotherapy. Side effects of cancer treatment. Oncology rehabilitation. Precise diagnostic methods (molecular diagnostics, pathological examinations). Selection of appropriate therapies for specific patient groups (targeted, personalized therapy – "tailored to the individual"). Molecular and biochemical markers enabling personalized therapy selection and determination of prognostic factors.	
3.2.7	**Nutrition and nutritional therapy**	Human nutrition principles during different life stages and physiological conditions. Dietary prevention and treatment of the most common chronic non-communicable diseases. Public health issues arising from improper nutrition. Diagnosis of clinical malnutrition and qualification of patients for nutritional interventions. Parenteral and enteral nutrition.	
3.2.8	**Immunology and vaccinology**	Types of immunity and types of immunization. Organization of vaccination in Poland. Mandatory and recommended vaccinations. Vaccinations for individuals exposed to infection due to their occupation. Vaccinations for international travel. Basic principles of vaccine administration. Indications and contraindications for vaccination. Adverse post-vaccination reactions. Legal foundations of vaccine implementation. Importance of immunotherapy in the treatment of inflammatory and cancer diseases, advancements in oncology and the treatment of cancer and inflammatory diseases through immunotherapy.	
3.2.9	**Contemporary antibiotic therapy**	Microbial resistance to antibiotics. Antibiotic classes currently used in therapy, their cellular targets and bacterial defense mechanisms against specific antibiotics. Inhibition of cell wall synthesis. Disruption of cell membrane function. Antibiotics disrupting bacterial protein synthesis. Antibiotics disrupting DNA and RNA synthesis. Inhibitors of metabolic pathways. Strategies for searching for new antibacterial drugs.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF POLITICAL AND ADMINISTRATIVE SCIENCES ***			
3.2.1	**Political theory**	Politics as a phenomenon and subject of study**.** Rules, norms, and principles determining political processes. Selected currents and concepts in political theory. Political actors. Goals of political actions and decisions.	SD_W01 SD_W02 SD_W07
3.2.2	**Political doctrines and ideas**	The essence of political doctrine**.** Relationships between political doctrine, political programs, and political action. Analysis of selected contemporary political doctrines. Classical and post-modern doctrines.	SD_U01 SD_U03 SD_U07 SD_K04
3.2.3	**Theory and practice of political parties**	Theories on the formation and development of political parties**.** Goals of political parties. Organization of modern political parties. The importance of the program in the activities of a political party. Selected types of political parties. Political thinking and the programs of political groups. Evolution of political parties in the 21st century.	

3.2.4	**Political communication**	The essence of political communication. Principles of political communication. Political discourse. Channels of political communication.	
3.2.5	**Political forecasting**	Methods and tools of forecasting in political decision-making and action. Predictive models. Factors determining planning processes and scenario building. Forecasting workshops.	
3.2.6	**Political leadership**	Evolution of leadership from the classical model to the populist approach. Types of leadership and their exemplification in political systems of selected countries. Communication styles of contemporary political leaders and the elements building their image. Mediatization of leadership – the balance of losses and benefits resulting from this phenomenon.	
3.2.7	**Selected public policies**	Discussion on the essence of public policies. The specificity of public policies. Public policy vs. politics. Instruments of action in implementing public policies.	
3.2.8	**International relations and security**	Characteristics of contemporary international relations. Actors in contemporary international relations. International security – actors and subjects of security. Contemporary security threats. Institutionalization of contemporary international relations.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF LEGAL SCIENCES* **			
3.2.1	**Economic analysis of law**	Studying law using economic methods. Studying the effectiveness of legal regulations. Positive economic analysis of law. Normative economic analysis of law. Competition law, labor law, tax law.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Development trends in civil law**	Essence and sources of Civil Law. Development trends in Civil Law. Directions of evolution of civil law norms.	
3.2.3	**Contemporary issues in criminology and forensic science in relation to criminal law**	Criminology as an interdisciplinary science, the modern approach to forensic science as judicial sciences, and the implementation of criminological and forensic knowledge in criminal law from both theoretical and practical aspects.	
3.2.4	**Administrative Act in theoretical and practical aspects**	Types of administrative acts. Content of administrative acts. Effectiveness of administrative acts. Practice of action using administrative acts.	

3.2.5	**Foundations of German, French, and Anglo-Saxon Public law**	Concepts of foreign public law. Basic assumptions of foreign legal systems. Distinctiveness of common law.	
3.2.6	**Current trends in theory of law**	Contemporary theory of law. Assumptions and concepts of changes in contemporary law. Contemporary theory of the state and law.	
3.2.7	**Human Rights protection by the Council of Europe**	Role of the Council of Europe in the global system of human rights protection. Competencies and tasks of the Council of Europe. Practical areas of the Council of Europe's work in protecting human rights.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF SECURITY SCIENCES * **			
3.2.1	**Methodology of security sciences**	Methodology of security as a detailed, pragmatic methodology. Qualitative methods in security sciences. Quantitative methods in security sciences – the use of mathematical methods in strategic analysis processes (data clustering methods: hierarchical, non-hierarchical, k-means, k-medoids, density-based clustering methods), and for decision-making purposes. Elements of complexity theory as research tools in the field of security. Methods of optimization of security systems (defense), military forces. Heuristic and combinatorial methods.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Strategic security management**	Strategic Management of Security in a Processual Approach – Structure and elements of the process. Strategic planning as a tool for strategic management. Security planning as metaplanning. Strategic design. Strategic review – a planning tool for security, defense, and military forces of the state – existing global and national achievements, proposed developmental solutions. Elements of forecast theory for strategic security management (defense, military) – the application of mathematical dynamic models in security management.	
3.2.3	**Theory of security**	Etymology and ontology of Security – from personal security to systemic security. Politics – Strategy – Doctrine, interdependencies. National interests and goals of security policy (defense, military). Conditions for the functioning of the state (megatrends, challenges, threats, opportunities, strengths, weaknesses). Symmetric and asymmetric foundations of security policy and strategy. National security vs. international security – a systemic (communal, coalition) approach. Alliances (coalitions) – global, regional, local dimension. International and interorganizational order – historical and contemporary perspectives. Predicted shape of the world order in the 21st century.	

3.2.4	**Strategic studies**	Strategy as a Praxeological Category – the phenomenon of violence, armed conflict, the genesis and evolution of strategy; Strategy as a concept – strategic categories, strategic culture, politics, strategy, and tactics; General strategy – strategy as art, science, and method. Strategy and space – strategy of great spaces, geopolitics, and geostrategy, strategy in space and cyberspace; Contemporary and future strategic studies issues – contemporary and future security environment, megatrends and strategic trends, strategic change, threats, and challenges.	
3.2.5	**Threats and challenges to security in the 21st century contemporary and future wars (armed conflicts)**	The subject has an informational-descriptive and analytical-prognostic nature, focusing on analyzing megatrends and trends in the evolution of international security, on one side, and the development of the "digital space," on the other side. It includes the process of draining classical liberal democracy, the exponential rise of private entities controlling the "digital space," and pilot programs for advanced social control. The thematic issues also address climate change, developmental imbalance, and demographic asymmetry.	
3.2.6	**Geopolitics**	The main objective of the subject is to understand the impact of geographical space on political competition between states, particularly on international relations and security. Historical and contemporary geopolitical concepts will be discussed, including U.S. foreign policy, Russia's revival, China's rise, the Middle East, European security, international security in South and East Asia, and geopolitical rivalry in Africa.	
3.2.7	**Crisis management in the State**	The subject covers the functioning of the crisis management system in Poland, including its main entities. Pragmatism in crisis management, legal foundations, and sources of norms in crisis management. The role of central government administration. The role of local government administration at the provincial, district, and municipal levels. Methods and procedures of crisis management. The role of uniformed services, cooperation with public administration. Improving the crisis management system.	
3.2 SPECIALIZED SUBJECTS IN THE DISCIPLINE OF PEDAGOGY ***			
3.2.1	**Trends in contemporary pedagogy**	Characteristics of trends in contemporary pedagogy. Connections between pedagogical subdisciplines. Philosophical and theoretical assumptions of the main trends and directions of pedagogical thought. Representative figures in pedagogy. Contemporary educational theories and concepts. Contemporary trends in school criticism and contemporary trends in educational reform. Forecasting the directions of development of educational theory and practice.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K02

3.2.2	**Contemporary directions in humanities and social sciences**	Global and local threats, risk situations of the contemporary family with practical elements, Traditional and contemporary culture understood as a system of values and/or lifestyle with practical elements, Creative activity of children and adults – individual conditions and social context with practical elements, Social policy regarding contemporary world issues with practical elements, Readaptation and social reintegration with practical elements.	
3.2.3	**Social issues and problems in the 21st Century**	War and its consequences. Demography, migration, and population movements in the 21st century. Family, parenthood, child, childhood. Media, culture, health, science. Globalization and threats. Crisis - the etiology of the phenomenon. Environmental determinants of human development. Factors threatening humanity.	
3.2.4	**Higher Education Institution as an organization and educational institution**	The university as an organization: structure and decision-making centers, key processes, areas of activity, cooperation networks, context of functioning (relations with the state, the market, and civil society). The university as an educational institution: academic teacher (legal regulations, typical scope of duties), education programs, planning and organization of education, quality of education and ways of ensuring it	
3.2.5	**Contemporary pedagogical thought**	Pedagogy of children with special educational needs, Media pedagogy, Teacher and school in the context of social and educational changes, Fundamentals of knowledge and research on the pedagogue and teaching profession in the context of contemporary conditions, Inclusive education Social pedagogy in response to the problems of the modern world, Contemporary threats to childhood – selected areas, Educational inequalities as a pedagogical problem.	
3.2.6	**Opportunities and threats in the use of Information and communication technologies**	Integral development of children and youth, Use of the Internet in the process of education and upbringing, Media education and its importance in the life of an individual, social group, and family.	
3.2.7	**Social Support (Pedagogical)**	Quality of life, Well-being, The concept of resilience, Psychological and educational support and counseling for children and families.	
3.2.8	**Monographic lecture**	Multifaceted analysis and interpretation of selected pedagogical texts chosen by the lecturer, linked to the presentation of the latest achievements in social-pedagogical sciences. Presentation of the contexts of a pedagogical work (biography of the author, culture, pedagogical subdiscipline, philosophical currents, etc.).	
3.2 SPECIALIZED SUBJECTS IN THE DISCIPLINE OF COMMUNICATION AND MEDIA STUDIES* **			
3.2.1	**Communication theories (mass communication)**	The beginnings of press research. Relations between press studies and media studies. Mass media research. Middle-range theories in media studies	SD_W01 SD_W02 SD_W03
		Theories of technological determinism; agenda-setting; framing; uses and gratifications; gatekeeping; spiral of silence; information-network society	SD_W05 SD_W07 SD_U01

3.2.2	**Methodology of social communication and media studies**	General concepts in the methodology of sciences with particular emphasis on the methodology of social communication and media sciences. Research on social communication and media – scopes and specifics. Qualitative and quantitative methods in social communication and media research. Medi content analysis. Systemic analysis in media studies. Research on traditional, global, and social media – research methods and tools.	SD_U02 SD_U03 SD_U04 SD_U05 SD_U06 SD_U08 SD_U010 SD_K01 SD_K02 SD_K03 SD_K05
3.2.3	**Mediatization of social space**	Mediatization as a social process and a subject of research. Mediatization as changes in the media and social and cultural transformations. Media as th fourth estate. Relationships between media and politics: mediatization of politics, politicization of media. The consequences of media and communication development for human identity, culture, and forms of coexistence. Tabloidization, celebritization, infotainment. From opinion leaders to celebrities – the metamorphosis of personal role models. The essence and role of new media. Prosumer media culture. Convergence of mass media. Consequences of mediatization and celebritization.	
3.2.4	**Media and local communication**	The place of local media in national and global media systems. The role of media in local (glocal) communication. Broadcasters and audiences of local media. Participants i local communication. Issues and research methods in local media and communication. Content analysis of local media.	
3.2.5	**New Media in a social context**	New and new new media and their impact on society and individuals. Social media and video platforms: YouTube, Twitch, TikTok. Changes in media usage practices by individuals and the impact of these processes on functioning within a group.	
3.2.6	**Dissemination of results in social communication and media sciences – theory and practice.**	Principles of preparing scientific articles with particular emphasis on social communication and media sciences. Databases of scientific journals. Stages of the publication cycle: from the idea of preparing a scientific article to submitting the manuscript. Peer review of the article and formulating responses to it. Good and bad publication practices. Overview of scientific conference databases, preparation for presentations at conferences, symposia, and scientific seminars.	
3.2.7	**Studies on media discourse**	The concept of discourse and its components. Media discourses as a type of communication occurring in mass media. Media discourse conducted in or through media. Discourse as a category defined by topic, medium, and sender. Image, writing, and verbal language as tools for building discourse. Historical, social, political, and cultural determinants of media discourse. Discourse analysis.Methods of discourse analysis. Selected examples of contemporary media discourses, including discourse on the condition of the Catholic Church in Poland and worldwide, discourse on in vitro, discourse on Ukrainian refugees in Poland, discourse on national minorities.	
3.2.8	**Monographic lecture**	Multidimensional presentation and analysis of selected topics in the field of social communication and media sciences, chosen by the lecturer.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF MANAGEMENT AND QUALITY STUDIES* **			

3.2.1	**Strategic management**	The concept and essence of strategic management. Components and types of strategies. Competitive advantage and sources of achieving it. The multidimensionality of the organizational environment. Strategic analysis: dimensions, tools, applications. Paths of organizational development. Mergers and acquisitions. Interorganizational relations: relational competitive advantage.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Theory of organization and management**	Sciences of organization and management in the context of the development of civilization. Contextualization of the process of managing an organization. Organization – concept and components. System of organizational goals. Organizational resources. Types of organizations. Outline of the environment of contemporary organizations. Relations between organizations and their environment. The management process. Competencies of management personnel. Power and management styles. Planning in an organization. Decision-making as part of the management process. The concept and types of decisions. Conditions for decision-making. Risk of managerial decisions. The organizing process. Characteristics and types of organizational structures. Fundamentals of employee motivation. The controlling process. Essence and premises of organizational change.	
3.2.3	**Human Resource management**	Determining staffing needs. Recruitment – candidate acquisition. Selection – candidate screening. Social and professional adaptation. Health protection and workplace safety. Employee professional development. Career development and succession planning. Shaping employee attitudes and behaviors. Shaping labor relations. Employee evaluation. Employee compensation. Employee departures and dismissals.	
3.2.4	**Methodology of management sciences**	Originality of scientific research based on filling knowledge gaps. Use of scientific literature, stages of literature review, and priorities in literature selection. Formulating scientific problems. Introduction to qualitative research. Pitfalls and dilemmas in qualitative research. Quantitative empirical research in management and quality sciences. Paradigms in management and quality sciences. Empiricism and deduction in the methodology of social sciences. Methodological rigor. Designing scientific research. Formulating scientific problems. Systematic literature review methodology. Quantitative methods in management and quality sciences. Case study as a research method in management and quality sciences. Triangulation of research methods. Methodological challenges of narrative approaches in organizational research.	

		Ethical aspects of empirical research.	
3.2.5	**Entrepreneurship**	Conceptualization of entrepreneurship. Personality traits and entrepreneurship. The entrepreneur as an individual: characteristics of entrepreneurial personality traits and motivations for starting a business. Entrepreneurial competencies. Cognitive determinants of entrepreneurship. Opportunity as a source of business ventures. Contextual embedding of entrepreneurial behaviors. Individual entrepreneurship. Academic entrepreneurship. Social entrepreneurship. Family entrepreneurship. The concept, essence, and types of innovation. Entrepreneurial orientation: antecedents and dimensions.	
3.2.6	**Financial management**	The subject and tasks of corporate finance and financial management. Principles of financing and investing – external capital and its acquisition. Use of operational, financial, and combined leverage in business management. Costs of capital – debt and equity. Capital investment. Formulas for calculating the time value of money and decision calculations. Methods for evaluating investment projects. Short-term financial management – managing working capital and current liabilities. The concept of working capital in a company and the need for net working capital. Ratio analysis of a company's financial situation.	
3.2.7	**Sustainable development (CSR)**	Sustainable development: conceptualization of the concept, assumptions, goals, and problematic areas. Corporate Social Responsibility (CSR) – general considerations. CSR models (A.B. Carroll's model, J. Elkington's Triple Bottom Line). Responsibility towards stakeholders. Socially responsible investing. Stock market indices of social responsibility in Poland and abroad. Responsible activity reporting (social reporting, integrated reporting). Standards for implementing corporate social responsibility. CSR practices in Europe and in Poland.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF BIOLOGICAL SCIENCES * **			
3.2.1	**Human microbiomes**	What is the microbiome? What role does it play in biological processes? Human Microbiome Project. Earth Microbiome Project.	SD_W01 SD_W02
3.2.2	**Mechanisms of DNA damage and repair**	Types and mechanisms of DNA damage: loss of a base, intercalation, modifications of nitrogenous bases: alkylation, methylation, hydrolytic deamination, oxidation, single- and double-strand breaks in DNA, DNA-DNA cross-links, DNA-protein cross-links. DNA damage repair mechanisms (systems): BER, NER, MMR, NHEJ, homologous recombination (HR), direct repair. DNA damage and its repair/apoptosis. Methods for studying DNA damage and repair: comet assay: alkaline, neutral versions, FISH, pulsed-field gel electrophoresis, chromosomal aberrations, micronucleus assay, clonogenic assay, gamma-H2AX assay, plasmid conformational transition analysis, PCR techniques: RFLP-PCR, real-time PCR (TagMan), HRM-PCR, immunoserological methods: ELISA, confocal microscopy, flow cytometry.	SD_W07 SD_U01 SD_U03 SD_U07 SD_K04

3.2.3	**Global environmental changes**	Destruction of plant communities – extermination of plant and animal species, their causes and consequences. The demise of tropical rainforests, pollution of rivers and coastal ocean waters, air pollution and their impact on climate. Movements of the lithospheric plates and their consequences on the Earth's surface (earthquakes, volcanic eruptions, and accompanying phenomena such as tsunamis). Climate changes in Earth's history. Drying of the climate, increased humidity, temperature changes, glacier melting, extreme weather events. Cosmic threats (asteroids).	
3.2.4	**Biodiversity – theory and practice**	Concepts of biodiversity. Classification. The value of biological diversity within a species. Continuum theory. Neutral theory. Metapopulation theory. Fractal theory. Aggregated Poisson distribution.	
3.2.5	**Epigenetic mechanisms**	Epigenetic regulation of chromatin processes. Post-translational modifications of histones and recognition of specific markers in histones. Chromatin remodeling and the protein complexes involved in this process. The impact of the environment on changes in genetic expression. Metabolic regulation of DNA and histone methylation. Non-coding RNA – mRNA degradation and its role in the formation of constitutive chromatin. The role of epigenetics in adaptive evolution. The influence of environmental factors on epigenetic processes. Epigenetics of cancer. Epigenetic mechanisms in immunological, neurological, and metabolic disorders. Epigenetic silencing of transgenes.	
3.2.6	**Gene expression analysis**	Gene or their expression products analysis using imaging methods, amplification, probe hybridization, or sequencing-based techniques. Gene expression regulation. Gene networks. Databases for gene expression analysis.	
3.2.7	**Bacterial antigens**	Morphology of bacterial cells. Pathogenic factors of bacteria. Terminology (epitope, allergen, superantigen, tolerogen, immunoglobulin). Exogenous and endogenous antigens. Autoantigens. Tumor antigens (neoantigens). Antigen specificity.	
3.2.8	**Trends in biological sciences**	Is there an alternative to stem cells? Alternative regeneration methods. Secrets of plants. Photosynthesis of cereal grains. Artificial life from the laboratory (Paris japonica).	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF CHEMICAL SCIENCES * **			
3.2.1	**Selected issues in contemporary organic chemistry**	Contemporary issues in the stereochemistry of organic compounds. Techniques and methods of synthesis. Biocatalysis.	SD_W01 SD_W02 SD_W07

3.2.2	**Selected issues in recent inorganic chemistry, coordination chemistry, and bioinorganic chemistry**	Interesting ligands used in the latest syntheses of complex compounds. Coordination compounds in medicine and biomedical sciences. The latest physicochemical methods used in coordination chemistry and bioinorganic chemistry. Multinuclear complexes as the basis for multifunctional molecular materials. Advantages and disadvantages of contemporary theories describing coordination bonding.	SD_U01 SD_U03 SD_U07 SD_K04
3.2.3	**Modern research trends in physcical chemistry**	Theory of separation phenomena, adsorption and partition, intermolecular interactions. Modern extraction and chromatographic techniques. Gas chromatography, liquid column chromatography, thin-layer chromatography, supercritical chromatography. Sample defragmentation and determination of the structure of low and high molecular weight molecules using low- and high-resolution ionization methods (EI, CI, FI, FAB, MALDI, ESI, APCI). Coupled techniques GC/MS, LC/MS, CE/MS, MS/MS. Application of these techniques for quantitative and qualitative analysis. Theoretical foundations of the latest molecular spectroscopy techniques	
3.2.4	**Modern methods in analytical chemistry**	Modern methods of instrumental analysis of selected chemical substances. Electroanalytical methods: advantages and limitations, selection criteria. Voltammetric techniques. Voltammetry using microelectrodes. Instrumental methods for the determination of trace elements	
3.2.5	**Selected research issues in carbon technology and contemporary alternative energy sources**	The issue of utilizing alternative energy sources. Controversies associated with the implementation of clean coal technologies. The specificity of adapting chemical, physical, and physicochemical research methods to determine the parameters characterizing the structure and composition of coals.	
3.2.6	**Contemporary issues in environmental geochemistry**	Environmental geochemistry as a discipline of geochemistry. The application of geochemical studies in environmental sciences. The use of geochemical methods to study environmental pollution and the reclamation of contaminated areas. Environmental geochemistry and health. Geotoxicology. Forensic geochemistry. Example studies in environmental geochemistry conducted at the Institute of Chemistry, Jan Kochanowski University in Kielce.	
3.2.7	**Modeling chemical reactivity using molecular dynamics simulations**	Basic concepts of Born-Oppenheimer and Car-Parrinello molecular dynamics methods. Modeling rare events: dynamics with constraints and metadynamics. Prediction of reaction pathways and calculation of free energy barriers.	
3.2.8	**Symmetry in chemistry**	Prediction of chemical properties of molecules based on their symmetry. Application of group theory in physical chemistry, quantum chemistry, and inorganic chemistry.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF PHYSICAL SCIENCES* **			
3.2.1	**Computer methods**	Use of computer programs such as 'Mathematica' to solve physical problems	SD_W01 SD_W02 SD_W07
3.2.2	**Quantum mechanics**	Description of quantum mechanics in the frameworks of Schrödinger, Heisenberg, and Feynman. Theoretical classes enriched with computational exercises.	SD_U01 SD_U03 SD_U07
3.2.3	**Relativistic quantum mechanics**	Consequences of the theory of relativity in quantum mechanics: Dirac and Klein-Gordon equations. Fundamentals of field theory	SD_K04

3.2.4	**Statistical methods**	Statistical methods: calculating parameter errors and determining the quality of fit. Description of the mathematical fundamentals necessary for the description of statistical problems. Developing the ability to solve problem-based tasks.	
3.2.5	**Statistical physics**	Fundamentals of classical and quantum thermodynamics: Bose-Einstein and Fermi-Dirac statistics	
3.2.6	**Atomic physics**	Modern description of atoms and molecules. Theoretical and experimental aspects of molecular spectroscopy	
3.2.7	**Introduction to the standard model of particle physics.**	Description of the Standard Model of elementary particles: Higgs physics and its decays, characteristics of strong and weak interactions	
3.2.8	**Introduction to general relativity and applications to astrophysics and cosmology**	Fundamentals of the theory of relativity (equivalence principle, motion in a strong gravitational field, gravitational waves). Astrophysics: stability of neutron stars. The standard model of cosmology.	
3.2.9	**Experimental methods of modern physics**	Detectors in particle physics; data analysis; presentation of the largest experimental collaborations; example of NA61; ongoing and planned experiments in high-energy physics; examples of experiments in low-energy physics; EBIS at the Jan Kochanowski University in Kielce.	
3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF EARTH AND RELATED ENVIRONMENTAL SCIENCES* **			
3.2.1	**Epigeosphere zonation and stratification**	Epigeosphere in a geosystemic approach. Transformations of the epigeosphere on different time scales. Hierarchization of environmental components. Zonality and azonality – causes and effects. Zonality of abiotic and biotic components. Stratification – causes and effects. Stratification of abiotic and biotic components. Zonality vs. stratification – similarities and differences. Changes in zones and stratification during the Quaternary. Morphoclimatology – basic concepts, research objectives, history, and current state of research. Landforms shaped by endogenic and exogenic factors – their mutual relationships and transformations in various climatic zones. Characteristics of specific morphoclimatic zones on Earth. The importance of the presence of a specific set of forms for the functioning of other environmental components in a given climatic zone. Anthropogenic transformations in different zones – the role and consequences of human activity. Transformations of morphoclimatic zones in Earth's history – relic landforms.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Contemporary issues in physical geography**	Overview of current issues in physical geography in light of subject literature. Methodological concept of a geoecosystem in a river basin. Methods of assessing soil erosion intensity. Gully erosion in Poland. The impact of heavy rainfall on the transformation of landforms in loess areas. Lithological features of slope covers and their paleogeographical significance. Environmental issues of geographic areas in urbanized zones and the role of geographers in conducting their identification. Hydrometeorological processes in urban areas – causes of flood hazards. Flood hazard and risk maps for urbanized areas. Thematic maps as a source of information about the geographical environment. The usefulness of the Hydrographic Map at a scale of 1:50,000 for analyzing landform transformations. Assessment of ecological stability in relation to land use and development. Determining the naturalness of small streams based on cartographic analysis and field mapping. Practical application of geographical science achievements. The impact of tourism on the geographical environment.	

3.2.3	**Geoinformation**	European and national trends in the application of GIS systems and the use of spatial information in the economy and administration. Sources of spatial data and basic methods of acquisition, processing, visualization, and interpretation. Principles of programming and automation of data acquisition processes, spatial analysis, and sharing of results. Algorithms and data structures and methods of their implementation. Methods of representing and modeling spatial data, as well as designing and managing databases	
3.2.4	**Modeling of natural processes and phenomena**	Models of geographical reality (mental, topographic, cartographic, remote sensing). Methods of acquiring spatial data and performing spatial analysis. Managing databases of topographic objects (BDOT), general geographical objects (BDO), Land and Building Records. Practical use of numerical terrain models. Geovisualization on selected examples – interpretation and significance. Geomarketing.	
3.2.5	**Functioning of geoecosystems and environmental monitoring**	Geographical individuality of geoecosystems. Selected manifestations of the functioning of geoecosystems in river and lake catchments under the conditions of climate change and increasing anthropogenic pressure. Current status, threat directions, forms of protection for geoecosystems in river and lake catchments (diagnostic studies). Natural and anthropogenic transformations of geoecosystems in river and lake catchments. Modeling, development scenarios for geoecosystems in river and lake catchments under observed climate changes and land-use structure. Revised legal regulations for environmental monitoring in Poland. Poland's participation in international conventions and programs. The informational function of monitoring. Documents containing information on the state of natural resources in Poland. Environmental inspection – new tasks in monitoring. State Environmental Monitoring in Poland – monitoring subsystems: air, surface water, groundwater, soils, noise, ionizing radiation, nature, including forest monitoring, integrated monitoring of the natural environment. Current environmental issues and their solutions.	
3.2.6	**Applied physical geography**	Natural resources in Poland and around the world, their degradation and protection. Natural and ecological disasters. The concept of sustainable development. Protection of minerals. Examples of the latest forms of land resource protection in Poland and globally. Geoenvironmental cartography. Legal foundations of abiotic natural environment protection in Poland.	
3.2.7	**Holocene paleogeography and geoarchaeology**	Selected issues in paleogeography. Environmental variability of Central Europe during the Late Glacial and Holocene periods. Methods of paleogeographic reconstruction. Similarities and differences in chronostratigraphy, methods, and interpretations used in natural sciences and humanities. The Holy Cross Mountains region during the Roman period – human activity and the environment. Geoarchaeology – basic concepts, scope, and research objectives. Sediments, soils, and environmental interpretations. Paleoclimate. Environmental context and the formation of archaeological sites under various environmental conditions. Research methods in geoarchaeology and spatial analysis. Comparison of geological, pedological, biostratigraphic, and archaeological stratigraphy, as well as absolute dating methods. Paleoenvironmental reconstructions based on selected examples from the Paleolithic, Neolithic, Bronze Age, and Iron Age.	
3.2.8	**Athropopressure in the natural environment**	Air, water, soil pollution. Trace eleements. Acidification. Alkalization. Bioaccumulation. Bio- and geoindicators. Anthropogenic impact on forest ecosystems.	

3.2. SPECIALIZED SUBJECTS IN THE DISCIPLINE OF VISUAL ARTS AND ARTWORK CONSERVATION * **			
3.2.1	**Methodology of research in fine arts and design**	Overview of research methods and directions of interpretation of artworks used in the discipline of fine arts and conservation of works of art in relation to the humanities and social sciences. Specificity of artistic research and methods enhancing research work in the discipline of visual arts and artwork conservation.	SD_W01 SD_W02 SD_W07 SD_U01 SD_U03 SD_U07 SD_K04
3.2.2	**Selected issues in fine and design arts**	Presentation and analysis of selected phenomena in art and design of the second half of the 20th century and the 21st century, focused on exploring connections and relationships with the doctoral student's creative and scientific activities. References of contemporary art phenomena to selected areas of art theory.	
3.2.3	**Workshop/Studio supporting the doctoral project**	Correspondence between the areas of art, design, and new media in the doctoral student's own creative work, in the context of expanding artistic expression tools and the scope of the undertaken artistic discourse	
3.2.4	**Artistic and design theories and practices**	Contemporary theories and strategies used in artistic or design activities within the discipline of fine arts and conservation of works of art. Strategic shaping of the form and content of a work of art/design appropriate to the medium and the addressed issues	
3.2.5	**Curator-Animator-Artist**	Contemporary creative strategies used in building relationships between the artist and the audience in the area of creating exhibition displays, educational-animational activities, and artistic actions in public spaces.	
3.2.6	**Contemporary art criticism and artistic literature**	Overview of key source texts in the field of art and design from the 20th and 21st centuries, serving as examples of artistic, visual, and research statements. Contemporary journals in the fields of art and design. The specificity of art and design criticism. Curatorial texts in the practice of developing exhibition projects	
3.2.7	**Social and cultural determinants of artistic and design creativity**	Culture, art, and design as subjects of study in cultural sciences and social sciences. Culture, art, and design as sociological concepts. Culture, art, design, and society – multi-faceted analyses of relationships. Socially engaged art and social design. Culture, art, design, and democracy.	
3.2.8	**Contemporary critical discourses in culture and art**	Contemporary critical theories in the analysis of visual culture phenomena, art, with a particular reference to the theories of the Frankfurt School, biopolitics theory, Michel Foucault's theory of biopower in the context of reflections on the power-art-body relationship, art in the aspect of cultural gender theory, gender performativity, feminism theory, studies on ethnic, national, sexual minorities in the context of socio-cultural and political oppression.	
3.2.9	**Psychology of creativity**	Art and creativity from a psychological perspective, humanistic psychology. Theory and components of the creative process. Rational and irrational aspects of the creative process. Psychoanalytic approach to the creative process and art according to Sigmund Freud, Carl G. Jung, Jacques Lacan. Psychopathology of creativity in the analysis of madness, deviation, art brut. Art and self-discipline. Art and self-therapy. Social and systemic aspects of creativity	
3.2.10	**Cultural and art anthropology**	Art, design as a cultural system. Art, design as subjects of ethnological research. Art, design, artist, designer as the 'Other.' Art and design in terms of the durability and variability of canons. Iconosphere and anthroposphere as areas of contemporary culture. Concepts of the anthropology of the image, anthropology of the object.	
3.2 SPECIALIZED SUBJECTS IN THE DISCIPLINE OF MUSICAL ARTS * **			

3.2.1	**Introduction to 20th-century music**	Discussion of the main directions and trends in the development of 20th-century music, with particular emphasis on solo and chamber music literature. Presentation of the most important composers of the 20th century, their style, and compositional techniques. Topics covered will include: expressionism, impressionism, dodecaphony, neoclassicism, serialism, barbarism, spectralism, postmodernism, sonorism, aleatoricism, minimalism, and electronic music. Development of the skills of conscious listening and reading of contemporary music. Familiarization with modern methods of articulation, sound production, and the use of instruments in new solo, chamber, and orchestral music	SD_W01 SD_W02 SD_U04 SD_K02
3.2.2	**Voice emission with diction for musicians**	Conditions for proper phonation and voice hygiene in the work of musicians and educators. Breathing exercises for correct diction, exercises to improve the articulatory organs; working with advanced texts. Development of conscious phonation, opening resonance pathways, i.e., improving voice emission (in speech) in terms of sonority/resonance. Raising awareness of the role of the voice in the professional life of various groups, from educators, trainers, and entrepreneurs to musicians, actors (artists). Vocal disorders in musicians.	SD_W01 SD_U04 SD_U010 SD_U011 SD_K02
3.2.3	**Musical analysis**	Advanced knowledge in the theoretical aspects related to various formal models and compositional techniques. Presentation of variant solutions within the studied formal structures. Development of skills for independent analysis of 18th- and 19th-century compositions.	SD_W03 SD_W05 SD_U03 SD_U05 SD_K02
3.2.4	**Cultural economics**	Advanced economic laws and theories. The functioning of cultural economics in the private and public sectors, in capitalist, communist, and mixed economies. Creating a business plan. The role and functions of the artist-musician in the economy of the 21st century	SD_W01 SD_W06 SD_U07 SD_W08 SD_U05 SD_U08 SD_K03
3.2.5	**The History of musical forms and styles**	Familiarization with the history and musical literature of various epochs and aesthetic canons, genres, and compositional techniques from the Middle Ages to the 20th century. Presentation of the evolution of musical genres, styles, and forms, as well as the antinomies and contradictions that arose during this evolution	SD_W02 SD_U04 SD_K02
3.2.6	**Psychology of music**	Development of human musicality. Discussion around the determinants of human musical development. Dynamics of the development of musical abilities, developmental periods of the child. Examples of measuring musical abilities. Brain function in different types of musical activities, issues of stage fright in musicians. New trends in music education. Perception of music and its conditions. Difficulties and obstacles in musical development.	SD_W01 SD_U03 SD_K02
3.2.7	**History of culture**	The aim of the course is to familiarize students with the most important sources of contemporary European culture, its history, with particular emphasis on continuity. At the same time, the classes aim to develop the ability to objectively consider (using appropriate terminology) cultural issues.	SD_W01 SD_W06 SD_U03 SD_K02

** The doctoral student selects one of the subjects.

*** Among the listed specialized subjects in the discipline, a doctoral student in the first, second, and third year is required to complete four mandatory subjects in the discipline (4 × 30 hours) and three selected subjects (3 × 15 hours) from outside of the mandatory ones, including at least one in another discipline within the same section. Among the seven subjects undertaken, at least one must be conducted in English, except for doctoral students in the physical sciences discipline, where education is conducted exclusively in English. The mandatory subjects are assessed by an exam, and the subjects chosen by the doctoral student are assessed with a grade. The division between mandatory and elective subjects, as well as the division between subjects taught in Polish or English, is determined by the Scientific Council of the Doctoral School.

METHODS OF VERIFYING AND ASSESSING THE LEARNING OUTCOMES ACHIEVED BY A DOCTORAL

CANDIDATE THROUGHOUT THE ENTIRE COURSE OF EDUCATION:

Verification of the effectiveness of achieving the intended learning outcomes at level 8 of the Polish Qualifications Framework (PRK) is carried out through:

1) **Exams and course credits** – the scope of questions should align with the content specified in the course syllabus and taught during lectures/exercises. The doctoral candidate has the right to request clarification from the instructor regarding the grade received on the exam or credit. The form of the exam or credit may be oral, written, or practical.

2) **Completion of teaching internships** – the learning outcomes achieved during teaching internships complement the education concept. Verification of these outcomes is done through observation of classes by the instructor and student surveys about the classes.

3) **Completion of scientific or artistic internships –** confirmation of national/international scientific or artistic internships.

4) **Monitoring by the supervisor of the doctoral candidate's individual research plan** – assessing the progress of the doctoral dissertation and the outcomes of the research activities.

The verification of learning outcomes takes place during the mid-term evaluation of the doctoral candidate's individual research plan.