COURSE SYLLABUS
METHODOLOGY OF MODERN SCIENTIFIC RESEARCH WITH THE BASICS OF INTELLECTUAL PROPERTY

Degree of higher education second (master)

Specialty 015.36 Vocational education (Technology of light industry products); 022 Design; 051 Economics; 071 Accounting and taxation; 072 Finance, banking and insurance; 073 Management; 075 Marketing; 076 Entrepreneurship, trade and exchange activities; 081 Law; 122 Computer Science; 123 Computer Engineering; 131 Applied Mechanics; 133 Industrial engineering; 141 Electric power, electrical engineering and electromechanics; 151 Automation and computer-integrated technologies; 161 Chemical technology and engineering; 162 Biotechnology and bioengineering; 182 Consumer industry technologies; 226 Pharmacy, industrial pharmacy

Course status – compulsory.

Instructor (s) Department of Computer engineering and Electrromechanics**:** Zlotenko B.M., Doctor of Technical Sciences, Professor

1. Course description

Semester(s): 1.
Scope: total number of hours – 90 including: lectures – 10 hours, practical – 20 hours, independent work – 60 hours; number of ECTS credits – 3.

Course objectives – mastering competencies ability to plan, organize and conduct research; ability to demonstrate awareness of intellectual property and contracts

Learning outcomes of the course:
know: modern methods of theoretical and experimental research; principles of work with literary sources, construction of oral and written presentations of scientific researches, features of an estimation of efficiency of scientific search; theoretical bases of active and passive experiments; methods of statistical processing and data analysis; rules for registration of research results; basics of intellectual property law*;*
be able to: choose areas of research, search and process scientific information; apply methods of processing research and experimental results; use the skills of observation, survey, experiment to obtain the necessary information; present the results of research orally and in writing; formulate the purpose and objectives of research; perform search and analysis of information from scientific sources; plan and conduct experimental and theoretical research; create intellectual property objects*;*
able to demonstrate: the necessary theoretical and practical knowledge of research methods, the ability to identify priority areas for research in the country; to choose methods of scientific search adequate to the object of research*;*
have the skills: analysis of sources of scientific information, formulation of goals and objectives of research, identification and conduct of necessary research and analysis of their results, registration of applications for security documents*;*
solve independently: questions concerning use of the received knowledge and their introduction in manufacture or educational process; questions on the use of the obtained results of scientific research in practice; issues related to the creation and use of intellectual property.

Required educational components (prerequisites, co-requisites, post-requisites): business foreign language

Course content: Topic 1. The concept of scientific research. Requirements for scientific research. Types of research. Topic 2. The concept of methodology, method, reception in scientific research. Typology of research methods. Topic 3. Empirical methods of scientific research. Topic 4. Theoretical research methods. Topic 5. Basic concepts and definitions of mathematical methods and methods of statistical processing of scientific data. Topic 6. The structure of the study: substantiation of relevance and definition of the research topic, its purpose, objectives. Topic 7. Processing of research data and registration of results. Topic 8. The concept and general characteristics of intellectual property. State and legal regulation in the field of intellectual property. Topic 9. Copyright and related rights. Topic 10. The right to invention, utility model, industrial design and innovation proposal. Topic 11. The right to a commercial (brand) name. Protection of trademark rights (marks for goods and services). Topic 12. Contractual relations in the field of intellectual property.

Forms of final control: exam (semester 1).
Tools for diagnosing learning success: individual tasks, list of questions and sets of test tasks for boundary and final controls.
Language of instruction: Ukrainian.

2. Assessment

Distribution of points received by applicants for higher education

Ongoing assessment and self-study work													MC (T1-T12)	Exam	Total
T1	T2	T3	T4	T5	T6	CC	T7	T8	T9	T10	T11	T12			
5	5	5	5	5	10	10	5	5	5	5	5	10	10	10	100

Distribution of points in the course

Types of assessment	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9**	**T10**	**T11**	**T12**	**Total**
Accomplishment of practical work	**5**	**5**	**5**	**5**	**5**	**10**	**5**	**5**	**5**	**5**	**5**	**10**	**70**
Current control	**10**						**-**						**10**
Module control (T1-T12)	**-**						**10**						**10**
Exam	**10**												**10**
												Total in the course	**100**

Exam evaluation criteria
10 points are given if the student knows the program material by 96-100%, selects convincing arguments in favor of a particular position, is aware of the possibility of using this or that information to solve a particular situation.
9 points are given if the student knows the program material by 90-95%, independently creates a bright, original in the opinion of the statement in accordance with the speech situation; analyzes different views on the same subject.
8 points are given if the student knows the program material by 85-89%, selects enough convincing evidence to justify the position, expresses his own opinion, there are minor errors in speech.
7 points are given if the student knows the program material by 80-84%, independently builds a consistent text, argues different views on the problem, builds a generally successful answer, with a small number of speech errors.
6 points are given if the student knows the program material by 75-79%, independently builds a fairly complete, meaningful answer, but sometimes there is an inconsistency of opinions in the statement.
5 points are given if the student knows the program material by 70-74%. The task is noticeable reproductive nature.

4 points are given if the student knows the program material by 65-69%. In the answer there is no independence of judgments, their argumentation.
3 points are given if the student knows the program material by 60-64%. The topic is partially revealed, there are shortcomings in a number of indicators: the main idea is not clearly formulated, there is a lack of unity of style, etc.
2 points are given if the student knows the program material by 50-59%. The answers are characterized by superficial coverage of the topic.
1 point is given if the student knows the program material less than 50%. The task does not distinguish between primary and secondary information.

Compliance with the scales for assessing the quality of learning material

Score on the national scale	Points	Assessment on the ECTS scale	Definition
excellent / passed	90-100	**A**	**Excellent** (outstanding performance without errors)
good / passed	82-89	**B**	**Very good** (above the average standard but with minor errors)
	74-81	**C**	**Good** (generally sound work with some errors)
satisfactory / passed	64-73	**D**	**Satisfactory** (fair but with significant shortcomings)
	60-63	**E**	**Fair** (performance meets the minimum criteria)
unsatisfactory / failed	35-59	**FX**	**Fail** (some more work required before the credit can be awarded)
	0-34	**F**	**Fail** (considerable further work is required)

3. Course policy:

3.1. Mandatory observance of academic integrity by students, namely:
- independent performance of all types of work, tasks, forms of control provided by the work program of this discipline;
- links to sources of information in the case of the use of ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- providing reliable information about the results of their own educational (scientific, creative) activities, used research methods and sources of information.

3.2. Obtaining a minimum grade in the discipline is possible provided that laboratory work is performed in full, passing the test of modular control.
3.3. In case of late laboratory work, the number of points for each is reduced by 2 points.
3.4. Postponement of the deadline for submission of works or reassignment is performed at the time specified by the teacher.
3.5. Works in which plagiarism is detected are not considered and are returned to the author for re-execution.
3.6. The course requires compulsory attendance. Students who for some reason do not attend classes must agree with the teacher during the week on a schedule of individual practice of missed classes. Classes are practiced according to a certain plan.
3.7. The assessment of the assessment is based on the application of the dean of the faculty by creating a commission of teachers involved in the preparation of masters in this educational program, with the mandatory inclusion in the commission of the head of the graduating department.