Kyiv National University of Trade and Economics

Faculty of Restaurant, Hotel and Tourism Business

Information Package European Credit Transfer and Accumulation System (ECTS)

Sphere of Knowledge

Specialty

Specialization

Educational Degree

18 «Production and Technology»

181 «Food Technology»

«Restaurant Technologies and Food Design» «Bachelor»

| Head of the Department of TORB | D. V. Fedorova |
|--------------------------------|----------------------|
| Head of the Support Group | N. V. Prytulska |
| Head of the Project Group | V. A. Hnitsevych |
| Dean of FRHTB | N.I. Vedmid |

Київ 2021

1. Educational Program

| The head of the project group (guarantor of the educational program) - Fedorova |
|---|
| D.V., Doctor of Technical Sciences, Professor |

| | 1 –General information | |
|-----------------------|--|--|
| Full name of IHE | Kyiv National University of Trade and Economics | |
| and structural unit | Faculty of Restaurant, Hotel and Tourism Business | |
| | Department of Technology and Organization of | |
| | Restaurant Business | |
| Academic degree | Bachelor's degree in higher education | |
| and qualification | specialty "Food Technology" | |
| title in the original | specialization "RestaurantTechnologies and Food Design" | |
| Educational | "RestaurantTechnologies and Food Design" | |
| Program Title | | |
| Diploma type and | Bachelor's degree, 240 credits ECTS, Training period 3 | |
| volume of the | year 10 months | |
| program | | |
| Accreditation | Initial accreditation is scheduled for 2024 pik | |
| Cycle/Level | HPK of Ukraine – level 6, FQ-EHEA – first cycle, EQF- | |
| | LLL – level 6 | |
| Preconditions | Availability of a complete general secondary education / | |
| | junior specialist's degree | |
| Language(s) of | Ukrainian | |
| instruction | | |
| Duration | 2024 | |
| Educational | https://leputa.adu.ua | |
| Program Link | https://knute.edu.ua | |

| 2 – Educational | program aim |
|-----------------|-------------|

Formation of a set of knowledge, skills and abilities for higher education students to apply in professional activities in the field of production and management of food quality and safety, in particular in the field of restaurant business.

| 3 - Educational Program General Information | | |
|---|--|--|
| Subject Area | Field of study 18 "Production and Technology" | |
| (Field of study, | Specialty 181 "Food Technology" | |
| speciality, and | Specialization "Restaurant Technologies and Food Design" | |
| specialization | | |
| Educational | Academic,educational, applied | |
| Program | | |
| Orientation | | |
| Educational Program | Special education in the field of technology, food | |
| and Specialization | design, organization of production and sale of food | |
| Goals and Objectives | products in restaurant business, namely: acquisition of | |
| | theoretical knowledge, mastery of methods and | |
| | technologies, the application of which is aimed at | |

| Spesific requirements | solving professional matters in restaurant business; creation of motivational conditions for competitive selection of the most talented young people with higher professional education for further development of their potential in the framework of master's programs. Focused on acquisition of theoretical knowledge and practical skills in the diagnosis of technological processes of food production, including the use of modern trends in food design. Keywords: technology, production, food products, restaurant technologies, food design, organization, restaurant business Internships and internships in Ukraine and abroad with obtaining certificates. Interactive field practical classes. Involvement of well- |
|-----------------------------|--|
| | known practitioners of restaurant business in the educational process. |
| 4_6 | Career Opportunities and Further Learning |
| Career opportunities | Employment in the food industry and in restaurants of various forms |
| Further learning | Employment in the food industry and in restaurants of various forms of ownership, in the positions of specialists whose functional responsibilities include: Heads of production units in restaurants, hotels and other accommodation (head of a restaurant, production manager, head of a canteen, head of production, chief cook, chief technologist). Heads of restaurants without a management staff (manager of a restaurant, cafe, canteen, etc.; head of a restaurant, cafe, dining room, etc .; restaurateur) Professionals in restaurant business (engineer-technologist, restaurant specialist). Food technology specialists. Specialized service specialists. Continuation of education for a master's degree |
| | |
| | 5 – Training and Assessment |
| Teaching and | Individualized learning, self-learning, problem-oriented learning, the |
| learning Assessment | method of critical thinking, training through laboratory practice. According to "Regulations on the organization of the educational process of students", "Regulations on the assessment of learning outcomes of students and graduate students": written exams, oral presentations, testing, oral examination, module control, tests, individual tasks, performance and defense of the final qualification work. |
| | 6 – Program Competences |
| Integral Competence (IC) | Ability to solve complex specialized tasks and practical matters of technical and technological nature, characterized by complexity and uncertainty of conditions in the production conditions of food industry and restaurant industry and in the learning process, which involves the application of theoretical foundations and methods of food technology. |

| General Competence | GC 01. Knowledge and understanding of the subject area and | | |
|---------------------------|--|--|--|
| - | professional activity. | | |
| (GC) | | | |
| | GC 02. Ability to learn and master modern knowledge. | | |
| | GC 03. Ability to show initiative and entrepreneurship. | | |
| | GC 04. Skills in the use of information and communication | | |
| | technologies. | | |
| | GC 05. Ability to search and analyze information from various | | |
| | sources. | | |
| | GC 06. Ability to assess and ensure the quality of work performed. | | |
| | GC 07. Ability to work in a team. | | |
| | GC 08. Ability to work autonomously. | | |
| | GC 09. Skills for safe activities. | | |
| | GC 10. Desire to preserve the environment. | | |
| | GC 11. Ability to communicate in the state language both orally and | | |
| | in writing. | | |
| | GC 12. Ability to communicate in a foreign language. | | |
| | GC 13. Ability to exercise rights and responsibilities as a member of | | |
| | society, to realize values of civil society and the need for its | | |
| | sustainable development, the rule of law, human and civil rights and | | |
| | freedoms in Ukraine. | | |
| | GC 14. Ability to preserve and multiply moral, cultural, scientific | | |
| | values and achievements of society based on understanding the history | | |
| | and patterns of the development of the subject area, its place in the | | |
| | general system of knowledge about nature and society and in the | | |
| | development of society, machinery and technology, use different types | | |
| | and forms of physical activity to ensure a healthy lifestyle. | | |
| Professional | PC 15. Ability to implement food technology based on understanding | | |
| Competence (PC) | the essence of the main components of food raw materials | | |
| | transformation during technological processes in the production, in | | |
| | particular in restaurants. | | |
| | PC 16. Ability to manage technological and service processes using | | |
| | technical, informational and software, in particular in restaurants. | | |
| | PC 17. Ability to organize and control the quality and safety of raw | | |
| | materials, semi-finished products and food products using modern | | |
| | methods. | | |
| | PC 18. Ability to ensure product quality and safety on the basis of | | |
| | relevant standards and within food safety management systems during | | |
| | their production and sale. | | |
| | GC 19. Ability to develop new and improve existing food | | |
| | technologies taking into account the principles of nutrition, resource | | |
| | saving and intensification of technological processes, in particular the | | |
| | technology of restaurant products, taking into account world trends | | |
| | and trends in food design. | | |
| | PC 20. Ability to compile business documentation and perform | | |
| | technological and economic calculations. | | |
| | PC 21. Ability to select and operate technological equipment, to | | |
| | compile equipment-technological schemes of food production, in | | |
| | particular in restaurants. | | |
| | PC 22. Ability to conduct research in specialized laboratories to deal | | |
| | with applied tasks. | | |
| | PC 23. Ability to design new or upgrade existing production facilities | | |

| |
|--|
| (production sites), in particular restaurants facilities. |
| PC 24. Ability to develop draft regulations using current legislation |
| and reference materials. |
| PC 25. Ability to develop and implement effective methods of work |
| organization, to be responsible for the professional development of |
| individuals and / or groups of people. |
| PC 26. Ability to form a communication strategy in the field of food |
| technology, to have a professional discussion. |
| PC 27. Ability to increase production efficiency, implement modern |
| management systems. |
| 7 – Program Learning Outcomes (PLO) |
| PLO 01. Knowledge and understanding of basic concepts, theoretical |
| and practical problems in the field of food technology. |
| PLO 02. Ability to show creative initiative and improve personal |
| professional level by continuing education and self-education. |
| PLO 03. Ability to apply information and communication |
| technologies for information support of professional activity and |
| carrying out researches of applied character. |
| PLO 04. Ability to search and process scientific and technical |
| information from various sources and use it to solve specific technical |
| and technological problems. |
| PLO 05. Knowledge of the scientific basis of food production |
| technological processes and patterns of physico-chemical, biochemical |
| and microbiological transformations of the main components of food |
| raw materials during technological processing. |
| PLO 06. Knowledge and understanding of the main factors |
| influencing the synthesis and metabolism of food components and the |
| role of nutrients in human nutrition. |
| PLO 07. Ability to organize, control and manage technological |
| processes of food processing into food products, including the use of |
| technical means of automation and control systems, in particular in |
| restaurants. |
| PLO 08. Ability to develop or improve food technology of high |
| nutritional value, taking into account global trends in the industry, in |
| particular, the technology of restaurant products, taking into account |
| global trends in food design. |
| PLO 09. Ability to develop draft technical conditions and |
| technological instructions for food products. |
| PLO 10. Ability to implement quality management systems and food |
| safety. |
| PLO11. Ability to determine the compliance of quality indicators of |
| raw materials, semi-finished products and finished products with |
| regulatory requirements using modern methods of analysis (or |
| control). PLO12 Ability to design new and modernize existing enterprises. |
| PLO12. Ability to design new and modernize existing enterprises, |
| shops, production sites using computer-aided design systems and |
| software, in particular restaurants. |
| PLO 13. Ability to choose modern equipment for technical outfit of new or reconstructed enterprises (shops) to know the principles of its |
| new or reconstructed enterprises (shops), to know the principles of its work and rules of operation, to make hardware technological schemes |
| work and rules of operation, to make hardware-technological schemes |
| of food production of the designed assortment. |
| PLO 14. Ability to increase production efficiency through the |

| | introduction of resource-saving and competitive technologies, to |
|--|---|
| | analyze the state and dynamics of demand for food products, in |
| | particular in restaurants. |
| | PLO 15. Ability to introduce modern enterprise management systems. |
| | PLO 16. Ability to adhere to safety rules and take technical and |
| | organizational measures to organize safe working conditions during |
| | production activities. |
| | PLO17. Ability to organize the process of waste disposal and ensure |
| | environmental cleanliness of production. |
| | PLO 18. Ability to have basic skills in conducting theoretical and / or |
| | experimental research conducted individually and / or as part of a |
| | research team. |
| | PLO 19. Ability to increase the efficiency of work by combining |
| | independent and team work. |
| | PLO 20. Ability to conclude business documentation in the state |
| | language. |
| | PLO 21. Ability to communicate the results of activities to a |
| | professional audience and the general public to convey ideas, |
| | problems, solutions and personal experience in the field of food |
| | technology and restaurant service. |
| | PLO 22. Ability to carry out business communications in the |
| | professional sphere in Ukrainian and foreign languages. |
| PLO 23. Ability to have skills in organizing the work of individu | |
| production units of enterprises and coordinating their activities. | |
| PLO 24. Ability to carry out technological, technical, econom | |
| calculations in the framework of development and introduction | |
| food products to the consumer market, keep records of mater | |
| | resource costs. |
| | PLO 25. Ability to identify creative initiative on market |
| | transformation of the economy. |
| | PLO 26. Ability to inform and defend one's own worldview and public |
| | position, to be socially responsible and conscious. |
| | PLO 27. Ability to preserve and increase the achievements and values |
| | of society, lead a healthy lifestyle. |
| 8 – Resource Support for Program Implementation | |
| Academic staff | More than 85% of the teaching staff involved in teaching the cycle of |
| | professional training disciplines must have appropriate academic |
| | degrees in the disciplines taught. |
| | |

| Facilities | The use of modern equipment of specialized laboratories of the | |
|-----------------------|--|--|
| | university, as well as leading restaurants. | |
| Informational, | The use of the virtual educational environment of Kyiv National | |
| Teaching and | University of Trade and Economics and authors' developments of the | |
| Learning Materials | teaching staff. | |
| 9 – Academic Mobility | | |
| National Credit | On the basis of bilateral agreements between KNTEU and | |
| Mobility | universities of Ukraine | |
| International Credit | Within the framework of the EU Erasmus + program on the basis of | |
| Mobility | bilateral agreements between KNTEU and universities of partner countries | |
| Training of Foreign | Possibility to teach foreign nationals after studying the Ukrainian | |
| Students | language course | |

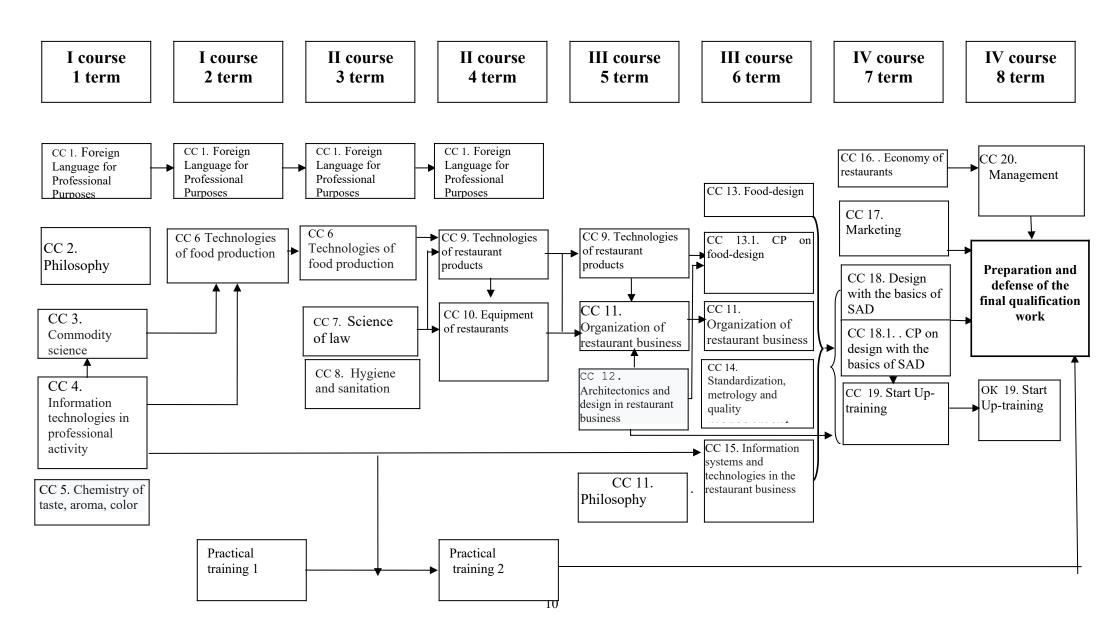
2. List of Educational Program Components and Their Logical Order 2.1. Educational Program Components

| N⁰ | Educational Program Components (disciplines, term projects (papers), practical training qualification exam, graduate paper) | Total credits |
|---------|--|---------------|
| 1 | 2 | 3 |
| | Compulsory Components (CC) of EP | |
| CC 1 | Foreign Language for Professional Purposes | 24 |
| CC 2 | Philosophy | 6 |
| CC 3 | Commodity science | 6 |
| CC 4 | Information technologies in professional activity | 6 |
| CC 5 | Chemistry of taste, aroma, color | 6 |
| CC 6 | Technologies of food production | 12 |
| CC 7 | Science of law | 6 |
| CC 8 | Hygiene and sanitation | 6 |
| CC 9 | Technologies of restaurant products | 12 |
| CC 10 | Equipment of restaurants | 6 |
| CC 11 | Organization of restaurant business | 12 |
| CC 12 | Architectonics and design in restaurant business | 6 |
| CC 13 | Food-design | 6 |
| CC 13.1 | CP on food-design | |
| CC 14 | Standardization, metrology and quality management | 6 |
| CC 15 | Information systems and technologies in the restaurant business | 6 |
| CC 16 | Economy of restaurants | 6 |
| CC 17 | Marketing | 6 |
| CC 18 | Design with the basics of CAD | 6 |
| CC 18.1 | CP on design with the basics of CAD | |
| CC 19 | Start Up-training | 9 |
| CC 20 | Management | 6 |
| | Total Credits for Compulsory Components: | 159 |
| | Optional Components (OC) of EP | |
| OC 1 | Bar business | 6 |
| OC 2 | Life safety | 6 |
| OC 3 | Safety of goods | 6 |
| OC 4 | Brand management | 6 |
| OC 5 | Accounting | 6 |
| OC 6 | Commercial law | 6 |
| OC 7 | Interior, furniture and equipment design | 6 |
| OC 8 | Design in advertising | 6 |
| OC 9 | Restaurant design | 6 |
| OC 10 | Second foreign language | 24 |
| OC 11 | Examination of alcoholic beverages | 6 |
| OC 12 | Oenology | 6 |
| OC 13 | Business Ethics | 6 |
| OC 14 | Ethnic culinary | 6 |
| OC 15 | Consumer protection | 6 |
| | Event management | 6 |
| OC 16 | | 0 |

| OC 18 | Building engineering | 6 |
|----------------------|---|-----|
| OC 19 | Foreign language of specialty | 24 |
| OC 20 | History of Ukraine | 6 |
| OC 21 | History of Ukrainian culture | 6 |
| OC 22 | Communication management | 6 |
| OC 23 | Confectionary and baking art | 6 |
| OC 24 | Methods of control of restaurant services | 6 |
| OC 25 | Business Process Modeling | 6 |
| OC 26 | National interests in the world geopolitics and geo-economics | 6 |
| OC 27 | Business law | 6 |
| OC 28 | Politology | 6 |
| OC 29 | Processes and devices of food production | 6 |
| OC 30 | Psychology | 6 |
| OC 31 | Psychology of advertising | 6 |
| OC 32 | Nutritional psychology | 6 |
| OC 33 | Advertising on the Internet | 6 |
| OC 34 | Religious studies | 6 |
| OC 35 | World culture | 6 |
| OC 36 | Sensory analysis | 6 |
| OC 37 | Sociology | 6 |
| OC 38 | Haute cuisine technology | 6 |
| OC 39 | Labor Law | 6 |
| OC 40 | The Ukrainian language for specific purposes | 6 |
| OC 41 | Service distribution management | 6 |
| OC 42 | Photojournalism and photography | 6 |
| OC 43 | Franchising | 6 |
| OC 44 | Food microbiology | 6 |
| | Total Credits for Optional Components: | 60 |
| | Practical Training | |
| Practical t | • | 6 |
| Practical training 2 | | 6 |
| Total | | 12 |
| A• | Attestation | |
| Attestation | n preparation | 3 |
| Preparatio | n of the final qualification work and its defense | 6 |
| Total | | 9 |
| TOTAL N | NUMBER OF EP CREDITS | 240 |

Final assessment of students is carried out in the form of a final exam for all components of the educational program

2.2 Structural and logical scheme of EP



3. The Form of Certification of Applicants for Higher Education

Certification is carried out in the form of public defense of the final qualification work.

The final qualification work involves independent solution of a specialized problem of design or research nature.

There can be no academic plagiarism, falsification or writing off in the final qualification work.

Final qualification works should be published on the official website of KNTEU or in the repository of the higher education institution.

| | Components | | | | | | | | | CC 9 | | | | | | | | CC 17 | | | |
|------------------------------------|------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | cc 1 | CC 2 | CC 3 | CC 4 | CC 5 | CC 6 | CC 7 | CC 8 | Ō | CC 10 | CC 11 | CC 12 | CC 13 | CC 14 | OK 15 | CC 16 | CC | CC 18 | CC 19 | CC 20 |
| Cor | mpetences | | | | | | | | | | | | | | | | | | | | |
| ces | GC 01 | | | • | • | • | • | | • | • | • | • | • | • | • | • | • | • | • | ٠ | • |
| enc | GC 02 | • | • | • | • | | • | • | • | • | • | • | • | • | | • | • | • | • | • | • |
| pet | GC 03 | | | | | | • | | | • | • | • | • | | | • | • | | • | • | • |
| om | GC 04 | | | | • | | | | | | | | | • | | • | | | | | |
| l c | GC 05 | • | • | • | • | • | • | • | • | • | • | • | • | • | | • | • | • | • | • | • |
| era | GC 06 | | | | | | • | | • | • | • | • | • | | | | | | | | |
| General competences | GC 07 | | | | | | | | | • | | ٠ | | | | | | | • | • | |
| \cup | GC 08 | | | | | | | | | • | | | | | | | • | | • | | |
| | GC 09 | | | | | | | | • | | • | | | | | | | | | | |
| | GC 10 | | | | | | • | | | • | • | | | | | | | | | | |
| | GC 11 | • | • | • | • | | • | • | • | • | • | • | | • | • | • | • | • | • | • | |
| | GC 12 | • | | | | | | | | | | | | | | | | | | | |
| | GC 13 | | | | | | | • | | | | | | | | | | | | | |
| | GC 14 | | | | | | | | | | | • | | | | | | | | | |
| es | PC 15 | | | | | | • | | | • | | | | • | | | | | | | |
| SUC | PC 16 | | | | | | | | | • | • | • | • | • | | • | | ٠ | • | • | |
| ete | PC 17 | | | • | | • | | | • | • | | | | | • | | | | | • | |
| du | PC 18 | | | | | | | | • | • | | | | | • | | | | | • | |
| 8 | PC 19 | | | | | | • | | | • | | | | • | | | | • | | | |
| al) | PC 20 | | | | | | | | | • | | | | | • | | • | | | • | |
| noi | PC 21 | | | | | | | | | • | • | | | • | | | | | • | | |
| Special (professional) competences | PC 22 | | | | | • | • | | | • | | | | | • | | | | | | |
| ofe | PC 23 | | | | | | | | | | • | | | | | | | | • | • | |
| (pr | PC 24 | | | | | | | | | • | | | | | • | | | | | | |
| a | PC 25 | | | | | | | | | | | • | | | | | | • | | | |
| ec Oec | PC 26 | | | | | | | | | • | | | | | | | | | | | |
| Sp | PC 27 | | | | | | | | | | | | | | | | | | | | |

4.1. . Matrix of correspondence of program competences to compulsory EP components

4.2. Matrix of correspondence of program competences to optional EP components

| Comp | onents | /oc 1 | / 00.2 | 00.3 | 00.4 | | | 007 | | | 00.10 | 00.11 | 00.12 | 00.13 | 00.14 | 00.15 | 00.16 | 00.17 | OC 18 | 00 19 | OC 20 | 00.21 | OC 22 | OC 23 | 0C 24 | 0C 25 | 0C 26 | 0C 27 | 0C 28 | 0C29 | 0031 | 0C 32 | 0C 33 | 0C 34 | 0C35 | 0C36 | 0C37 | OC 38 | OC 39 | OC 40 | 0C 41 | 0C 42 | 0C 43 | 0C 44 |
|------------------------------------|--------|-------|--------|------|------|---|---|----------|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|------|------|---------------|---------------|-------|-------|----------------|----------------|---------------|-------|
| S S | ~~~~ | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ | | | | | | _ | _ | \rightarrow | \rightarrow | | | $ \rightarrow$ | $ \rightarrow$ | \rightarrow | |
| General competences | GC 01 | • | • | • | • | | | | | • | | • | | • | | • | | | | | • | • | | • | • | | | • | _ | - | | • | | | | • | \rightarrow | \rightarrow | • | | \rightarrow | \rightarrow | • | _ |
| eter | GC 02 | • | | • | • | | • | | • | | | • | • | | | | • | • | • | | | | • | • | | | • | • | • | • | • | • | | • | • | • | \rightarrow | • | • | • | \rightarrow | \rightarrow | • | • |
| npe | GC 03 | | | • | | | | | • | | | • | | • | | | | | • | | | | • | | | • | | _ | _ | - | | • | • | | _ | _ | \rightarrow | \rightarrow | | | • | • | \rightarrow | |
| cor | GC 04 | | | | | • | | • | • | • | | | | | | | • | | • | | | | | | | | | _ | | - | | | • | | _ | _ | \rightarrow | \rightarrow | • | | • | • | \rightarrow | _ |
| ral | GC 05 | | | • | • | • | • | | | | | • | • | | • | • | | | | | | • | • | | • | • | • | • | • | | | • | • | | _ | • | • | • | • | | -+ | • | • | |
| inei | GC 06 | • | | • | | | | • | | | | • | | • | | | | | | | | | | | • | | | _ | _ | | | | | | _ | _ | \rightarrow | \rightarrow | | | -+ | \rightarrow | \rightarrow | |
| Ge | GC 07 | • | | | • | | | | • | • | | • | | | • | | • | | | | | • | • | • | | | | _ | _ | • | • | | • | | _ | _ | \rightarrow | \rightarrow | | | • | • | \rightarrow | |
| | GC 08 | | | | | • | | | | | | | | | | • | | • | | | | | | | • | | | _ | _ | - | | | | | _ | • | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | |
| | GC 09 | | • | • | | | | • | | | | | | | | | | | | | | | | | | | | _ | • | _ | | | | | _ | _ | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | |
| | GC 10 | | | | | | | | | | | | | | | | | | | | • | | | | | | | _ | • | | | | | | _ | _ | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | • |
| | GC 11 | • | | • | | | • | | • | | | • | | | | | • | | | | | • | • | • | • | • | | • | • • | • | • | • | • | • | _ | _ | • | • | • | • | • | • | • | _ |
| | GC 12 | | | | | | | | | | • | | | • | | | | | | • | | | | | | | | _ | | - | | | | | _ | _ | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | _ |
| S | GC 14 | • | | | | | | | | | | | | | • | • | • | • | | | | | • | • | | | | _ | _ | • | • | • | | • | • | _ | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | |
| Ce | PC 15 | • | | | | | | | | | | | • | | • | | | | | | | | | • | | | | _ | • | - | | | | | _ | _ | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | • |
| ter | PC 16 | • | | | • | | | | | | | | | | • | | | | | | | | | • | | • | | _ | • | - | | | | | _ | _ | \rightarrow | \rightarrow | • | | \rightarrow | \rightarrow | \rightarrow | |
| be | PC 17 | | • | | | | | | | | | • | | | | | | | | | | | | | • | | | _ | _ | - | | | | | | • | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | | • |
| L LO | PC 18 | | | • | | | | | • | | | | | | | | | | | | | | | | • | | | _ | _ | - | | | | | _ | • | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | • |
|) C | PC 19 | • | | | | | | | | | | | • | | • | | | | | | | | | • | | | | _ | • | | | • | | | _ | _ | \rightarrow | \rightarrow | • | | -+ | \rightarrow | \rightarrow | |
| na | PC 20 | | | | | • | | | | | | | | | | | | | | | | | | • | | • | | _ | _ | | | | | | _ | _ | \rightarrow | \rightarrow | | | -+ | \rightarrow | • | _ |
| sio | PC 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | • | | | | | | | _ | \rightarrow | \rightarrow | | | -+ | \rightarrow | \rightarrow | _ |
| fes | PC 22 | | | | | | | • | | | | • | | | | | | | | | | | | | • | | | _ | _ | - | | | | | _ | • | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | \rightarrow | _ |
| bro | PC 23 | | | | | - | | • | | • | | | | | | | | | • | | | | | | | | | • | _ | - | | | | | | _ | \rightarrow | \rightarrow | | | -+ | \rightarrow | \rightarrow | _ |
| e | PC 24 | • | | | | • | | | | | | | | | | | • | | | | | | | | | -+ | | - | _ | - | | | | -+ | + | + | \rightarrow | \rightarrow | | | \rightarrow | \rightarrow | -+ | - |
| Scié | PC 25 | - | | | _ | | | | | | | | | | | | • | | | | | • | • | | | -+ | | _ | _ | - | | | | -+ | + | + | \rightarrow | \rightarrow | | | • | \rightarrow | -+ | - |
| Special (professional) competences | PC 26 | | | | • | | | <u> </u> | | | | | | | | | • | | | | | | • | | | -+ | | _ | _ | - | | | | _ | + | + | \rightarrow | \rightarrow | | | • | \rightarrow | -+ | - |
| | PC 27 | | | | • | | | | | | | | | | | | ٠ | | | | | | • | | | | | | | | | | | | | | | | | | • | | | |

5.1. Program Learning Outcomes and Compulsory Components Matrix

| Components | | | | | | | | | CC 9 | 10 | | | | | | | CC 17 | | | |
|---------------------|---------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Program Learning | CC 1 | CC 2 | cc 3 | CC 4 | CC 5 | CC 6 | CC 7 | CC 8 | | CC 10 | CC 11 | CC 12 | CC 13 | CC 14 | CC 15 | CC 16 | C | CC 18 | CC 19 | CC 20 |
| Outcomes | \land | | | | | | | | | | | | | | | | | | | |
| PLO 01 | | | | | | ٠ | | | • | | | | • | | | | • | | | • |
| PLO 02 | | | | | | ٠ | | | • | • | ٠ | | | | • | • | | • | | |
| PLO 03 | | | | • | | | | | | | | • | • | | • | | | | | |
| PLO 04 | | | | | | | | | • | | | • | • | • | | | | • | | |
| PLO 05 | | | | | | ٠ | | | • | | | | | | | | | | | |
| PLO 06 | | | | | • | ٠ | | | • | | | | | | | | | | | |
| PLO 07 | | | | | | ٠ | | | • | • | | | | | | | | | • | |
| PLO 08 | | | | | | | | | • | | | | • | | | | | | | |
| PLO 09 | | | | | | | | | • | | | | | • | | | | | | |
| PLO 10 | | | • | | | | | | | | | | | • | | | | | • | |
| PLO 11 | | | • | | | | | • | • | | | | | • | | | | | | |
| PLO 12 | | | | | | | | | | | | • | | | | | | • | • | |
| PLO 13 | | | • | | | | | | | • | | | | | | | | • | | |
| PLO 14 | | | | | | | | | • | | | | • | | | • | | | | • |
| PLO 15 | | | | | | | | | | | | | | | | | | | • | |
| PLO 16 | | | | | | • | | | • | • | | | | | | | | | | |
| PLO 17 | | | | | | ٠ | | • | | | | | | | | | | | | |
| PLO 18 | | | | | • | • | | | • | | | | | | | | • | | | |
| PLO 19 | | | | | | | | | • | | | | | | | | | | | |
| PLO 20 | | | | | | | | | • | | | | | | | | | | | |
| PLO 21 | | | | | | | | | | | • | | • | | | | | | | • |
| PLO 22 | • | | | | | | | | • | | • | | | | | | • | | | • |
| PLO 23 | | | | | | | | | | | ٠ | | | | | | | | • | |
| PLO 24 | | | | | | | | | • | | | | | | | • | • | | • | |
| PLO 25 | | | | | | | | | | | | | | | | • | | | | |
| PLO 26 | | • | | | | | • | | | | | | | | | | | | | |
| PLO 27 | | • | | | | | | | | | | | | | | | | | | |

5.2. Program Learning Outcomes and Optional Components Matrix

| Components | 1 | 00.7 | 0C3 | 0C 4 | 0C5 | 0C 6 | 00.7 | 00.8 | 00.9 | 0C 10 | 0C 11 | 0C 12 | 0C 13 | 0C 14 | OC 15 | 0C 16 | 0C 17 | 0C 18 | OC 19 | 0C 20 | 0C 21 | 0C 22 | 0C 23 | 24 | OC 25 | 0C 26 | 0C 27 | OC 298 | 0C 29 | 00.30 | 00.32 | 0C 33 | OC 34 | OC 35 | 0C 36 | OC 37 | OC 38 | OC 39 | 0C 40 | 0C 41 | 0C 42 | 0C 43 | OC 44 |
|---------------------|------|------------------|-----|------|-----|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|-------|
| Program Learning | OC 1 | | | | | | | | | | | | | | | | | | | | | | | S | | | | | | | | | | | | | | | | | | | |
| Outcomes | | $\left \right $ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PLO 01 | • | | | | | | • | • | • | | • | | | | | | | • | | | | • | | | | | | | | | | | | | | | | | | | | • | |
| PLO 02 | • | | • | • | | • | | • | | | • | • | | • | • | • | | | | | | | • | | | • | • | • | | • | • | | • | | | • | | | • | | | | • |
| PLO 03 | | | • | | | | | • | | | | • | | | | | | | | | | | | • | | • | | | | | | | | | | • | | | | | | • | |
| PLO 04 | • | | | • | | | | • | | | • | | | | | | | | | | | • | | • | • | • | | | • | | | | • | | | | | | | | • | • | • |
| PLO 05 | | | | | | | | | | | | • | | • | | | | | | | | | | • | | | | | • | | | | | | | | | | | | | | • |
| PLO 06 | | | | | | | | | | | | | | • | | | | | | | | | | • | | | | | | | | • | | | | | | | | | | | |
| PLO 07 | • | | | | | | | | | | | • | | • | | | | | | | | | | • | • | | | | | | | | | | | | | \top | | \top | | | |
| PLO 08 | • | | | | | | | | | | | • | | • | | | | | | | | | | • | | | | | | | | | | | | | | • | | | | | |
| PLO 09 | • | | | | | | | | | | | | | | • | | | | | | | | | • | | | | | | | | | | | | | | | | | | | |
| PLO 10 | | | • | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | |
| PLO 11 | | | • | | | | | | | | • | • | | | | | | | | | | | | • | • | | | | | | | | | | | • | | | | | | | • |
| PLO 12 | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| PLO 13 | | | | | | | • | | • | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | |
| PLO 14 | • | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | • | | | | | |
| PLO 15 | | | | • | | | | | | | | | | | | • | | | | | | | • | | | | | | | | | | | | | | | | | | • | | |
| PLO 16 | • | • | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PLO 17 | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PLO 18 | | | | | | | | | | | • | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | |
| PLO 19 | • | | • | | | • | | | | | • | | | | | • | | | | | | | • | | | • | • | • | | • | • | | • | | | | | | • | | • | | • |
| PLO 20 | | | | | • | | | | | | | • | | | | | | | | | | | | | • | | | | | | | | | | | | | | | • | | | |
| PLO 21 | | | | | | | | | | | | | • | | | | • | | | | | | | | | | | | | | • | | • | | | | • | | | | | • | |
| PLO 22 | | | | | | | | | | • | | | | | | | | | • | | | | | | | | | | | | • | | • | | | | | | | • | | | |
| PLO 23 | | | | | | | | | | | | | | • | | | | | | | | • | | | | | | | | | | | | | | | | \top | | \top | | | |
| PLO 24 | • | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \top | | \top | | | |
| PLO 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | \top | | \top | • | | |
| PLO 26 | | | | | | | | | | | | | • | | • | | • | | | • | • | | | | | | • • | • • | | • | | | | • | • | | • | | | | | | |
| PLO 27 | | | | | | | | | | | | | • | | | | • | | | • | • | | | | | | | • | | • | | | | • | • | | • | | | | | | |