# MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE KYIV NATIONAL UNIVERSITY OF TRADE AND ECONOMICS

#### **EDUCATIONAL PROGRAM**

**«DIGITAL TOURISM»** 

First level of higher education speciality 242 Tourism field of study 24 Service sector

qualification: higher educational level Bachelor specialty «Tourism»

specialization «Digital Tourism»

|                         |            |            | AP       | PROVED BY     |
|-------------------------|------------|------------|----------|---------------|
|                         | SCIEN      | NTIFIC C   | OUNCII   | L OF KNUTE    |
|                         |            | Head of    | the Acad | lemic Council |
|                         |            |            | / A.     | A. Mazaraki / |
| (proto                  | ocol №     | _from ''   | •••      | 20)           |
| The educational program | m is put i | nto effect | from_    | 20 .          |
| <b>-</b> 0              | _          |            |          | A. Mazaraki / |
| (                       | order №_   | of ''_     | ••       | 20)           |

#### 1. Profile of the educational program in specialty 242 "Tourism" (specialization "Digital Tourism")

| 1 - General information    |   |  |  |  |  |  |  |  |  |  |
|----------------------------|---|--|--|--|--|--|--|--|--|--|
|                            |   |  |  |  |  |  |  |  |  |  |
| Full name of IHE           | Kyiv National University of Trade and                     |  |  |  |  |  |  |  |  |  |
| and structural unit        | Economics, faculty of Restaurant                          |  |  |  |  |  |  |  |  |  |
|                            | hotel and tourism business,                               |  |  |  |  |  |  |  |  |  |
|                            | Department of Tourism and recreation                      |  |  |  |  |  |  |  |  |  |
| Academic degree            | Level of higher education                                 |  |  |  |  |  |  |  |  |  |
| and qualification          | Bachelor Speciality «Tourism»                             |  |  |  |  |  |  |  |  |  |
| title in the               | Specialization «Digital Tourism»                          |  |  |  |  |  |  |  |  |  |
| original                   |   |  |  |  |  |  |  |  |  |  |
| Educational program title  | «Digital Tourism»   |  |  |  |  |  |  |  |  |  |
| Qualification title        | Bachelor diploma, 240 credits                             |  |  |  |  |  |  |  |  |  |
| (degree), program          | ECTS Training period 3 years 10                           |  |  |  |  |  |  |  |  |  |
| credits and duration       | months  |  |  |  |  |  |  |  |  |  |
| Accreditation              | Accreditation in Speciality 242 «Tourism», Certificate of |  |  |  |  |  |  |  |  |  |
|                            | accreditation НД № 1196406 of 21.11.2017 p.               |  |  |  |  |  |  |  |  |  |
|                            | validity term 01.07.2021 p. MES of Ukraine                |  |  |  |  |  |  |  |  |  |
| Cycle\level                | HPK Ukraine– 6 level, FQ-EHEA – first cycle, EQF LLL – 6  |  |  |  |  |  |  |  |  |  |
|                            | level   |  |  |  |  |  |  |  |  |  |
| Academic background        | a certificate of secondary education                      |  |  |  |  |  |  |  |  |  |
| g                          | 3   |  |  |  |  |  |  |  |  |  |
| Language(s) of instruction | Ukrainian   |  |  |  |  |  |  |  |  |  |
| Program duration           | 01.07.2021  |  |  |  |  |  |  |  |  |  |
| Educational program link   | https://knute.edu.ua                                      |  |  |  |  |  |  |  |  |  |
|                            | 2 - Educational programme aim                             |  |  |  |  |  |  |  |  |  |

Formation of general and professional competencies for the successful implementation of economic, organizational and managerial, production and technological activities in the field of international tourism

| 3 - Educational programme description  tudy 24 «Service sector» y 242 «Tourism» ation «Digital Tourism»  |
|--|
| y 242 «Tourism»  |
|  |
| nal and professional with applied orientation. Professional ration) aspects of the program are the formation of ge in production, economic and management activities in the atternational tourism.   |
| ducation in the field of tourism in specialty 242 "Tourism" ds: organization of tourism, foreign language, tourism g, hotel business, restaurant business, tourist-recreational lies, excursion business, specialized tourism; information and technologies in tourism; management. retical content of the subject area is based on: basic concepts: tourist, sphere of tourism, forms and types of tourism, and tourism, tourist resources, international market of tourist |
|  |

tourist infrastructure, subjects of tourist business; concepts: 1) humanistic, patriotic and educational, national identity; 2) globalization and geolocalization of tourism; 3) geotoriality of tourism, geospatial organization of the tourist process; 4) sustainable tourism for development; 5) information technology; 6) holistic marketing, 7) service; 8) socially responsible business; principles that determine the principles of training: student-centered, competenceoriented, scientific, systematic and consistent learning, practiceoriented, interdisciplinary methods and means: general and special scientific methods: geographical, economic, sociological, psychological, informational, methods of tourist service (technological-production, interactive, service).tools and equipment: technical equipment and facilities for information processing, compliance with safety in tourism and tourism activities of tourism market entities, specialized licensed applications, maps, atlases, sports equipmentsubject area contains knowledge of tourism, tourism and excursion activities, organization of hotel and restaurant business, transport services, information systems and technologies in tourism, tourism economics, touring, management and marketing, legal regulation and safety of tourism.

## Specific features of the programme

The need for training, learning several foreign languages; training abroad.

The program is implemented in the Ukrainian and English languages of instruction. The program reflects the loyalty provided by the Law of Ukraine "On Higher Education" in the context of academic autonomy.

#### 4 - Carrier opportunities and further learning

### Carrier opportuniti es

Types and names of economic activity for which the bachelor is prepared for work (according to the National Classification of Ukraine "Classification of types of economic activity DK 009: 2010"):

Section N. Activities in the field of administrative and support services Section 79. Activities of travel agencies, tour operators, other reservation services and related activities

Group 79.1 Activities of travel agencies and tour operators Class 79.11. Activities of travel agencies

Class 79.12. Activities of tour operators

Group 79.9. Other booking services and related activities Class 79.90. Other booking services and related activities Section R. Education

Chapter 85. Education

Class 85.4. Higher Education

Group 85.41. Vocational education at the level of higher vocational education

85.42. Higher Education

Section R. Arts, sports, entertainment and recreation Section 93. Activities in the field of sports, recreation and entertainment Class 93.2. Organization of recreation and entertainment

Group 93.29. Organization of other types of recreation and entertainment Positions that the master is able to hold (according to the National Classification of Ukraine "Classifier of professions DK 003:

2010"): 3414 Tourist service specialist

3414 Tour operator

3414 Guide

3414 Leisure specialist

|                  | 3414 Specialist in rural tourism                                       |
|------------------|--|
|                  | <u> </u>   |
|                  | development 3414 Conference service                                    |
|                  | specialist   |
|                  | 3414 Specialized service   |
|                  | specialist 3414 Tourist security                                       |
|                  | specialist   |
|                  | 3340 Instructor-methodologist on                                       |
|                  | tourism 3439 Other technicians in                                      |
|                  | management 3439 Inspector of   |
|                  | Tourism  |
|                  | 1317 Managers of small enterprises without management staff            |
|                  | in commercial services (agency manager)                                |
| Further learning | Graduates of the first level of higher education with a bachelor's     |
|                  | degree in "Tourism" can enroll in the second level of education        |
|                  | (master's  |
|                  | degree).   |
|                  | 5 - Training and Assessment  |
| Teaching         | Student-centered learning, self-study, problem-oriented learning,      |
|                  | practice learning, etc.Lectures, practical classes, independent work   |
| and learning     | on the basis of textbooks, manuals and lecture notes, training through |
|                  | practice and professional internships, consultations with teachers,    |
|                  | preparation of final qualifying work and attestation exam.             |
| Assessment       | Written exams, practice, term papers, presentations, individual        |
|                  | projects, attestation and other types of work, which are evaluated in  |
|                  | accordance with the "Regulations on the evaluation of learning         |
|                  | outcomes of students   |
|                  | and postgraduate students", "Regulations on the organization of        |
|                  | the educational process of students".                                  |
|                  | 6 - Programme competences  |
| Integral         | The ability of a person to solve complex specialized problems and      |
| competence       | practical problems in the field of tourism and recreation or in the    |
|                  | learning process using modern software and hardware and digital        |
|                  | information technology, which involves the use of certain theories and |
|                  | methods of science and is characterized by complexity and uncertainty. |

| General    |
|------------|
| competence |

C01. The ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine

C02. Ability to preserve and increase moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies, perform a variety of active recreation and a healthy lifestyle

C03. The ability to act socially responsibly and consciously C04. Ability to think critically, analyze and synthesize C05. The desire to preserve the environment

C06. Ability to search, process and analyze information from various sources

C07. Ability to work in an international context

C08. Skills in the use of information and communication technologies C09. Ability to identify, pose and solve problems

C10. Ability to communicate in the state language both orally and in writing

C11 Ability to communicate in a foreign

language C12. Interpersonal skills C13. Ability to plan and manage time

C14. Ability to work in a team and independently

#### Professio nal competen ce

- C15. Knowledge and understanding of the subject area and understanding of the specifics of professional activity C16. Ability to apply knowledge in practical situations
- C17. Ability to analyze the recreational and tourist potential of the territories
- C18. Ability to analyze the activities of the tourism industry at all levels of management
- C19. Understanding of current trends and regional priorities of tourism development in general and its particular forms and types C20. Understanding of processes of the organization of tourist trips and complex tourist service (hotel, restaurant, transport, excursion, recreational)
- C21. Ability to develop, promote, sell and organize the consumption of a tourist product
- C22. Understanding the principles, processes and technologies of organizing the work of the tourism industry and its subsystems
- C23. Ability to ensure the safety of tourists in ordinary and complex force majeure
- C24. Ability to monitor, interpret, analyze and systematize tourist information, the ability to present tourist information material
- C25. Ability to use information technologies and office equipment in the work of tourist enterprises
- C26. Ability to determine individual tourist needs, use modern technologies of tourist service and conduct pretentious work
- C27. Ability to cooperate with business partners and clients, the ability to provide effective communication with them
- C28. Ability to work in an international environment based on a positive attitude to dissimilarity to other cultures, respect for diversity and multiculturalism, understanding of local and professional traditions of other countries, recognition of intercultural issues in professional practice
- C29. Ability to act in the legal field, to be guided by the law
- C30. Ability to work with documentation and perform settlement operations on behalf of a travel business entity in particular using digital technologies and cyber security tools.
- K31. Ability to organize the process of creating and developing online travel agencies (OTA).

#### 7 - Program learning outcomes

- PLO01. Know, understand and be able to use in practice the basic provisions of tourism legislation, national and international standards for tourist services.
- PLO02. Know, understand and be able to use in practice the basic concepts of tourism theory, organization of the tourism process and tourism activities of the market of tourism services, as well as worldviews and related sciences.
- PLO03. Know and understand the basic forms and types of tourism, their division.
- PLO04. Explain the features of the organization of recreational and

tourist space.

PLO05. Analyze the recreational and tourist potential of the territory.

|                | PLO06. Apply the principles and methods of organization and                                      |
|----------------|--|
|                | technology of tourist services in practice.  |
|                | PLO07. Develop, promote and sell a tourism product.  |
|                | PLO08. Identify tourist documentation and be able to use it correctly.                           |
|                | PLO09. Organize the process of customer service for tourism                                      |
|                | services based on the use of modern information, communication                                   |
|                | and service technologies and compliance with quality standards and                               |
|                | safety standards. PLO10. Understand the principles, processes and                                |
|                | technologies of organizing the work of the tourism business and its                              |
|                | individual subsystems (administrative, socio-psychological, economic,                            |
|                | technical and technological).  |
|                | PLO11. Know the national and foreign language (s), at a level                                    |
|                | sufficient for professional activity.  |
|                | PLO12. Apply skills of productive communication with consumers                                   |
|                | of tourist services.   |
|                | PLO13. Establish links with tourism experts and the ones of                                      |
|                | other industries.  |
|                | PLO14. Show respect for individual and cultural diversity.                                       |
|                | PLO15. To show tolerance to alternative principles and methods of performing professional tasks. |
|                | PLO16. Act in accordance with the principles of social responsibility                            |
|                | and civic consciousness.   |
|                | PLO17. Manage your training for self-realization in the professional                             |
|                | tourism field.   |
|                | PLO18. Adequately assess own knowledge and apply it in various                                   |
|                | professional situations.   |
|                | PLO19. Defend own views in solving professional problems in a                                    |
|                | well- argued manner.   |
|                | PLO20. Identify problem situations and suggest solutions.  |
|                | PLO21. Make informed decisions and be responsible for the results                                |
|                | of own professional activities.  |
|                | PLO22. Perform tasks professionally in uncertain and extreme                                     |
|                | situations.  |
|                | 8 - Resource support for programme implementation  |
| Academic staff | Specialists who train bachelors in the educational program                                       |
|                | "International Tourism" must have professional knowledge and                                     |
|                | professional skills in the field of tourism and resort and recreational                          |
|                | business. Domestic and   |
|                | foreign practitioners in the field of tourism and resort and recreational                        |
|                | business are invited to conduct problem lectures.  |
| Facilities     | Computer classroom "Tourism Business   |
|                | Management" "Tourism" classroom  |
|                | Hotel business computer classroom  |
|                | Laboratory for the organization of services in the hotel   |
|                | industry Laboratory of bar business and oenology   |
|                | VR-library<br>SMART  |
|                | library  |
| Informational, | General scientific and special sources of recreational and tourist                               |
| teaching       | information, educational and methodical and monographic literature,                              |
| ,              | cartographic sources, IT technologies and platforms and others.                                  |
| and learning   | Author's developments of the teaching staff of the university.                                   |
| materials      | Use of KUNTE virtual learning environment and specialized software:                              |
|                |  |

|                  | Amadeus Selling Platform   |
|------------------|--|
|                  | Software package "Sail:  |
|                  | Enterprise" Samo-Tour software   |
|                  | package  |
|                  | Google Earth Geospatial Data Analysis  |
|                  | Program Statistica Statistical Data Analysis   |
|                  | Program  |
|                  | Program for creating statistical surfaces and spatial regression surfaces "Surfer Golden Software" |
|                  | Microcal Origin graphic material development   |
|                  | program MapInfo Pro 12.3 Travel Map Development  |
|                  | Program  |
|                  | 9 - Academic mobility  |
| National credit  | National credit mobility is carried out in accordance with the                                     |
| mobility         | concluded  |
|                  | agreements on academic mobility, double graduation, etc.   |
| International    | International credit mobility is realized through the conclusion of                                |
| credit mobility  | agreements on international academic mobility (Erasmus + K1), on                                   |
|                  | double graduation, on long-term international projects involving                                   |
|                  | student  |
|                  | training and the issuance of a double diploma, etc.  |
| Training of      | Conditions and features of the educational program in the context of                               |
| foreign students | teaching foreign citizens: knowledge of the Ukrainian language at a                                |
|                  | level  |
|                  | not lower than B1.   |

### 2. List of educational program components and their logical order. 2.1. Educational Programme components list

| <u>N₂</u>     | Feducational Programme components (courses course   | Tot  |
|---------------|---|------|
| 745           | Educational Programme components (courses, course papers, trainings, qualifying examination, graduation | al   |
|               | work)   | cred |
|               | " om  | its  |
| 1             | 2.  | 3    |
|               | Compulsory components of  |      |
| 001           | EP  | T    |
| CC 1.         | Foreign language for professional purposes  | 24   |
| CC 2.         | Philosophy  | 6    |
| CC 3.         | Legal regulation of tourist activity  | 6    |
| CC 4.         | Hotel business  | 6    |
| CC 5.         | Tourist and recreational local lore   | 6    |
| CC 6.         | Information technologies in professional activity   | 6    |
| CC 7.         | Digital systems and technologies  | 6    |
| CC 8.         | Organization of tourism   | 6    |
| CC 9.         | KR on the organization of tourism   | 6    |
| CC 9.1        | Restaurant business   | 6    |
| CC 10.        | Economic theory   | 6    |
| CC 11.        | Foreign language specialty  | 12   |
| CC 12         | Marketing in tourism  | 6    |
| CC 13.        | Startup management in tourism   | 6    |
| CC 14.        | Management in tourism   | 5    |
| CC 14.1       | KR on tourism management  | 1    |
| CC 15.        | Economics of tourism  | 6    |
| CC 16.        | Communicative management  | 6    |
| CC 17.        | Information systems and technologies in tourism   | 6    |
| CC 18.        | Startup training  | 9    |
| CC 19.        | Specialized tourism   | 6    |
| CC20.         | Accounting  | 6    |
| Total credits | for compulsory components:  | 153  |
|               | Optional components of EP   |      |
| OC1           | Life safety   | 6    |
| OC2           | Security of Internet resources  | 6    |
| OC3           | Business planning   | 6    |
| OC4           | Commercial law  | 6    |
| OC5           | Design  | 6    |
| OC6           | Second foreign language   | 42   |
| OC7           | Ecology   | 6    |
| OC8           | Excursion business  | 6    |
| OC9           | E-commerce  | 6    |
| OC10          | Business ethics   | 6    |
| OC11          | Ethnic cooking  | 6    |
| OC12          | Imageology  | 6    |
| OC13          | Intelligent systems   | 6    |
| OC14          | Internet technologies in business   | 6    |
| OC15          | Information law   | 6    |
| OC16          | Cultural heritage of Ukraine  | 6    |
| OC17          | Cultural tourism  | 6    |
| OC18          | Resort business   | 6    |

| OC19              | Logic  | 6   |  |  |  |  |  |  |  |  |  |  |  |
|-------------------|--|-----|--|--|--|--|--|--|--|--|--|--|--|
| OC20              | Public speaking  | 6   |  |  |  |  |  |  |  |  |  |  |  |
| OC21              | , , , , , , , , , , , , , , , , , , ,                                |     |  |  |  |  |  |  |  |  |  |  |  |
| OC22              | C22 Politology C23 Legal regulation of tourism in the European Union |     |  |  |  |  |  |  |  |  |  |  |  |
| OC23              | OC23 Legal regulation of tourism in the European Union               |     |  |  |  |  |  |  |  |  |  |  |  |
| OC24              | OC24 Psychology  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC25              | OC25 Recreation  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC26              | Religious studies  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC27              | OC27 World culture   |     |  |  |  |  |  |  |  |  |  |  |  |
| OC28              | Sociology  | 6   |  |  |  |  |  |  |  |  |  |  |  |
| OC29              | Digital marketing technologies                                       | 6   |  |  |  |  |  |  |  |  |  |  |  |
| OC30              | Data analysis technology   | 6   |  |  |  |  |  |  |  |  |  |  |  |
| OC31              | Mobile application development technology                            | 6   |  |  |  |  |  |  |  |  |  |  |  |
| OC32              |  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC33              |  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC34              | 6  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC35              | 6  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC36              | OC36 Event technologies in tourism                                   |     |  |  |  |  |  |  |  |  |  |  |  |
| OC37              | 8  |     |  |  |  |  |  |  |  |  |  |  |  |
| OC38              | Web-design and Web-programming                                       |     |  |  |  |  |  |  |  |  |  |  |  |
| OC39              | Payment systems  |     |  |  |  |  |  |  |  |  |  |  |  |
| Total credits     | for optional components:   | 60  |  |  |  |  |  |  |  |  |  |  |  |
|                   | Practical training   |     |  |  |  |  |  |  |  |  |  |  |  |
| Practical train   | ing 1  | 3   |  |  |  |  |  |  |  |  |  |  |  |
| Practical train   |  | 3   |  |  |  |  |  |  |  |  |  |  |  |
| Practical train   | ing 3  | 3   |  |  |  |  |  |  |  |  |  |  |  |
| Total             |  | 18  |  |  |  |  |  |  |  |  |  |  |  |
|                   | Competence assessment  |     |  |  |  |  |  |  |  |  |  |  |  |
| Preparation for t | he attestation exam and attestation                                  | 3   |  |  |  |  |  |  |  |  |  |  |  |
| Completion of fi  | inal qualifying work and defense                                     | 6   |  |  |  |  |  |  |  |  |  |  |  |
| Total numbe       | r of credits   | 240 |  |  |  |  |  |  |  |  |  |  |  |

For all components of the educational program, the form of final control is an exam.

#### 2.2. Structural and logical scheme of EP

| //////////////                                   |   |   |  | /  | //  | /////////                                 | /                |   |   |
|--|---|---|--|--|-----|---|------------------|---|---|
| I year<br>1 semester                             | I year 2 semester                                       | II year<br>3 semester                                     | II year<br>4 semester                            | III year<br>5 semester                             |     | III year<br>6 semester                    | /<br>/<br>/      | IV year<br>7 semester                           | IV year<br>8 semester   |
| OK 1. Foreign language for professional purposes | OK 1. Foreign language for professional purposes        | OK 1. Foreign<br>language for<br>professional<br>purposes | OK 1. Foreign language for professional purposes | OK 11. Foreign language specialty                  |     | OK 11. Foreign language specialty         | ,<br>/<br>/<br>/ |   | OV 20   |
| OK 2. Philosophy                                 |   |   | OK 10. Economic theory                           |  |     | OK 15.<br>Economics of<br>tourism         | / / / /          |   | OK 20.<br>Accounting  |
| OK 5. Legal regulation of tourist activity       | OK 6. Information technologies in professional activity | OK 8. Organization of tourism                             | OK 8. Organization of tourism                    | OK 12.   |     |   | /<br>/<br>/<br>/ | OK 18. StartUp-training OK 17.                  | OK 18. StartUp-training OK 19.  |
| OK 3. Legal regulation of tourist activity       | OK 7. Digital systems and technologies                  |   | OK 8.1.<br>TW on Organization<br>of tourism      | Marketing in tourism  OK 12.  Marketing in tourism |     | OK 14.<br>Management in                   | /<br>/<br>/      | Information systems and technologies in tourism | Specialized tourism  Preparation for the  |
| OK 4.<br>Hotel business                          | Practical training 1                                    | OK 9. Restaurant business  Practical training 2           |  | management in tourism                              |     | tourism OK 14.1. TW  Practical training 3 | / / / /          | OK 16. Communicative management                 | attestation exam and attestation  Completion of final qualifying work and defense екзамену та атестація |
| ///////////////////////////////////////          |   |   |  |  | //, | /////////                                 | /                |   |   |

#### 3. Form of competence assessment of applicants for higher education

Competence assessment is carried out in the form of public defense of the final qualifying work and qualification exam.

The final qualifying work should include theoretical and analytical generalizations or solutions to practical problems in the field of tourism and recreation using theories and methods of tourism.

The final qualifying work must be checked for plagiarism.

The final qualifying work must be published on the official website of the higher education institution or its structural unit, or in the repository of the higher education institution.

The attestation exam should be aimed at verifying the achievement of learning outcomes defined by the standard of higher education and the educational program.

4.1. Programme Competences and EP Compulsory Components Matrix

|                     | Components  |     |     |     |     |     |     |     |    |     | Ĭ    |      |      |      |      |      |      |      |      |      |      |
|---------------------|-------------|-----|-----|-----|-----|-----|-----|-----|----|-----|------|------|------|------|------|------|------|------|------|------|------|
| Competence          |             | 133 | CC2 | CC3 | CC4 | CC5 | 922 | CC7 | 85 | 600 | CC10 | CC11 | CC12 | CC13 | CC14 | CC15 | 0122 | CC17 | CC18 | CC19 | CC20 |
| ences               | C<br>0<br>1 |     | *   | *   |     |     |     |     |    |     | *    |      |      |      |      |      |      |      |      |      |      |
| General Competences | C<br>0<br>2 |     | *   |     |     |     |     |     | *  |     | *    |      |      |      |      |      |      |      |      |      |      |
| meral (             | C<br>0<br>3 |     |     | *   | *   |     |     |     | *  |     | *    |      | *    |      | *    |      |      |      |      |      |      |
| 5                   | C<br>0<br>4 |     | *   |     |     |     | *   | *   |    |     | *    |      |      |      | *    | *    |      |      | *    |      |      |
|                     | C<br>0<br>5 |     |     |     | *   | *   |     |     | *  | *   |      |      | *    | *    |      |      |      |      |      |      |      |
|                     | C<br>0<br>6 |     |     |     |     | *   | *   | *   | *  |     |      |      | *    | *    | *    | *    |      | *    | *    |      | *    |
|                     | C<br>0<br>7 | *   |     |     |     | *   |     |     | *  | *   |      | *    | *    |      |      |      |      | *    |      |      |      |
|                     | C<br>0<br>8 |     |     |     |     |     | *   | *   |    |     |      |      | *    |      |      |      | *    | *    | *    |      | *    |
|                     | C<br>0<br>9 |     | *   | *   |     |     | *   | *   |    |     |      |      |      | *    | *    | *    | *    | *    | *    | *    |      |
|                     | C<br>1<br>0 |     | *   | *   |     | *   | *   | *   | *  | *   | *    |      | *    | *    | *    | *    | *    | *    | *    | *    | *    |
|                     | C<br>1<br>1 | *   |     |     |     |     |     |     |    |     |      | *    |      |      |      |      |      |      |      |      |      |
|                     | C<br>1<br>2 | *   | *   |     |     |     |     |     | *  | *   | *    | *    | *    | *    | *    |      | *    |      | *    | *    |      |
|                     | C<br>1<br>3 |     |     |     |     |     | *   | *   | *  | *   |      |      | *    | *    | *    | *    |      | *    | *    |      | *    |

|   | C           |   |   | * |   | * | * | * | * |   | * | * | * |   | * | * | * |   |          |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
|   | C<br>1<br>4 |   |   | * |   | * | · |   |   |   |   | • |   |   |   |   |   |   |          |
|   | S C         | * | * | * | * |   |   | * | * | * | * | * | * | * |   | * | * | * |          |
|   | 1<br>5      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ^ |          |
|   | C C         | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |   | *        |
| , | 1<br>6      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |          |
|   | E C         |   |   |   | * |   |   | * |   |   | * |   |   |   |   |   |   |   |          |
|   | 1<br>7      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |          |
|   | E C         |   |   |   |   |   |   | * | * |   | * |   | * | * |   | * | * |   | *        |
|   | <b>2</b> 1  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | 8<br>C      |   |   |   | * |   |   | * | * |   | * |   |   | * |   | * | * |   |          |
|   | 1           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |          |
|   | 9<br>C      |   |   | * |   |   |   | * | * |   | * | * |   |   |   | * | * |   |          |
|   | 2           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |          |
|   | 0           |   |   |   |   |   |   | * | * |   | * |   |   |   |   | * | * |   |          |
|   | C 2         |   |   |   |   |   |   | 4 | • |   | * |   |   |   |   | ^ | • | * |          |
|   | 1           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <u> </u> |
|   | C 2         |   |   | * |   |   |   | * | * |   | * |   | * | * |   | * | * |   |          |
|   | 2           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | C 2         |   | * |   |   |   |   | * | * |   |   |   |   |   |   |   |   |   |          |
|   | 3           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | C           |   |   |   | * |   |   | * |   |   | * | * |   | * |   | * | * |   |          |
|   | 2 4         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | C           |   |   |   |   | * | * |   |   |   |   |   |   |   |   | * |   |   |          |
|   | 2 5         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | С           |   |   | * |   |   |   | * | * |   | * |   |   |   |   |   |   |   |          |
|   | 2<br>6      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |          |
|   | C           | * |   |   |   |   |   | * |   | * | * |   | * |   | * | * | * |   |          |
|   | 2           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|   | 7<br>C      | * |   |   | * |   |   | * | * | * | * |   |   |   | * |   |   | * |          |
|   | 2           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |

| 8 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
|---|---|--|---|---|---|---|--|---|---|---|---|---|---|---|
| C | * |  |   |   | * | * |  | * | * | * | * | * | * | * |
| 2 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
| 9 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
| C |   |  | * | * | * |   |  |   |   |   | * | * | * |   |
| 3 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
| 0 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
| C |   |  |   | * |   |   |  |   |   |   |   | * |   |   |
| 3 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |
| 1 |   |  |   |   |   |   |  |   |   |   |   |   |   |   |

4.2. Program Competences and EP Optional Components Matrix Components / Competences General Competences 2 Competen \* \* \* \* C0 C0 \* \* \*  $\mathbf{C0}$ \* \* \* \* \* \* \* \* \* \* \* <u>C1</u> \* \* \* \* \* \* 0 **C1 C1** \* \* \* \* \* \* \* 2 **C1** 3 **C1** \* 4 \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* **C2** \* \* C2 3 **C2** \* 4 C2 \* \* \* \* \* \* 5

| C2<br>6 |   |   |   |   | * |   |   |   |   |   |   | * | * |   |   |   |   |   |   |   |   |   |   |  |   | * |   |   |  |
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| C2<br>7 |   |   |   |   |   |   | * |   | * |   |   |   |   | * |   |   |   | * |   |   |   |   |   |  |   |   |   |   |  |
| C2<br>8 |   |   |   | * |   |   |   | * |   |   |   | * | * |   |   |   | * |   | * | * |   |   |   |  |   |   |   |   |  |
| C2<br>9 | * |   | * |   |   |   |   |   |   |   | * |   |   |   |   | * | * |   |   |   |   |   | * |  |   |   |   |   |  |
| C3<br>0 | * | * |   |   |   | * |   |   |   | * |   |   |   |   | * |   |   |   |   |   |   |   |   |  |   |   |   |   |  |
| C3<br>1 | * |   |   |   |   | * |   |   |   | * |   |   |   |   | * |   |   |   |   |   | * | * |   |  | * |   | * | * |  |

### **5.1.Program learning outcomes and EP compulsory components Matrix**

| Components /<br>Program<br>learning<br>outcomes | CCI | Ç | 7) | CC4 | CCS | 933 | CC7 | CC8 | 622 | CC10 | CC11 | CC12 | CC13 | CC14 | CC15 | CC16 | CC17 | CC18 | 0155 | CC20 |
|---|-----|---|----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| PLO01   |     |   | *  |     | *   |     |     | *   | *   |      |      | *    | *    |      | *    |      | *    | *    | *    |      |
| PLO02   |     | * |    |     | *   |     |     | *   | *   | *    |      | *    | *    | *    | *    |      | *    | *    | *    |      |
| PLO03   |     |   | *  |     | *   |     |     | *   |     |      |      | *    |      |      |      |      |      |      | *    |      |
| PLO04   |     |   |    |     | *   |     |     | *   |     |      |      |      |      |      |      |      |      |      | *    |      |
| PLO05   |     |   |    |     | *   |     |     | *   |     |      |      | *    |      |      | *    |      |      |      |      | П    |
| PLO06   |     |   |    | *   |     |     |     | *   | *   |      |      |      |      |      |      |      | *    | *    | *    |      |
| PLO07   |     |   |    |     |     |     | *   | *   | *   |      |      | *    |      |      |      |      | *    | *    | *    |      |
| PLO08   |     |   | *  |     |     |     |     | *   |     |      |      | *    | *    |      | *    |      |      | *    |      | *    |
| PLO09   |     |   |    | *   |     |     |     | *   | *   |      |      | *    |      |      |      |      | *    | *    | *    | П    |
| PLO10   |     |   |    |     |     |     | *   | *   | *   |      |      | *    | *    | *    | *    |      | *    | *    |      | *    |
| PLO11   | *   |   |    |     | *   |     |     | *   | *   |      | *    | *    | *    | *    | *    | *    | *    | *    |      | *    |
| PLO12   | *   |   |    |     |     |     |     | *   | *   |      | *    | *    |      |      |      | *    |      | *    |      |      |
| PLO13   |     |   |    |     |     |     |     | *   |     |      |      | *    | *    | *    |      | *    | *    | *    |      | *    |
| PLO14   | *   | * |    | *   | *   |     |     | *   | *   |      | *    | *    |      |      |      |      |      |      |      |      |
| PLO15   |     |   |    |     |     |     |     |     |     |      |      |      |      | *    |      |      |      |      |      |      |
| PLO16   |     | * |    | *   |     |     |     | *   | *   |      |      | *    | *    | *    |      |      |      | *    |      | П    |
| PLO17   |     | * |    |     |     |     |     |     |     |      |      |      |      | *    |      |      |      |      |      |      |
| PLO18   | *   |   | *  | *   | *   | *   | *   | *   | *   |      | *    | *    | *    | *    | *    | *    | *    | *    | *    | *    |
| PLO19   |     | * |    |     |     |     |     | *   | *   |      |      | *    |      | *    |      |      |      | *    |      |      |
| PLO20   |     |   | *  |     |     |     |     | *   | *   |      |      | *    | *    | *    | *    | *    | *    | *    | *    | *    |
| PLO21   |     |   | *  | *   |     |     |     | *   | *   |      |      | *    | *    | *    | *    | *    | *    | *    | *    | *    |
| PLO22   |     |   |    |     |     |     |     | *   | *   |      |      | *    | *    | *    | *    | *    | *    | *    |      | *    |

#### 5.2. Program learning outcomes and EP optional components Matrix

| Components /<br>Program<br>learning<br>outcomes | 0.07 |   |   |   |   |   | 0C6 |   |   | 00.10 | 00.11 | 00.11 | 00.13 | 150 | 100 | 00.16 | 0C 17 | 00.18 | OC 19 | 0000 |   | 00.33 | 00.33 | OC 24 | OC 25 | 0C 26 | 00.27 | OC 28 | 06.20 | OC 30 | OC 31 | ) ( 3. | 0033 |   | 90.38 | OC 36 | 0C37 | 0C38 |
|---|------|---|---|---|---|---|-----|---|---|-------|-------|-------|-------|-----|-----|-------|-------|-------|-------|------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|---|-------|-------|------|------|
| PLO01   | *    |   |   | * |   |   | *   | * |   |       |       |       |       |     |     |       | *     | *     |       |      |   |       | *     |       | *     |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO02   |      |   |   |   |   |   |     | * |   |       |       |       |       |     |     | *     |       | *     |       |      |   | *     |       |       | *     | *     | *     | *     |       |       |       |        |      |   |       |       |      |      |
| PLO03   |      |   |   |   |   |   |     |   |   |       |       |       |       |     |     |       | *     |       |       |      |   |       |       |       |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO04   |      |   |   |   |   |   |     |   |   |       | *     |       |       |     |     | *     | *     | *     |       |      |   |       |       |       | *     |       | *     |       |       |       |       |        |      |   |       |       |      |      |
| PLO05   |      |   |   |   |   |   |     |   |   |       |       |       |       |     |     | *     | *     | *     |       |      |   |       |       |       | *     |       |       |       |       | *     |       |        | *    |   |       |       |      |      |
| PLO06   |      |   |   |   |   |   |     | * |   |       |       |       |       |     |     |       | *     | *     |       |      |   |       |       |       | *     |       |       |       |       |       |       |        |      | * |       |       |      |      |
| PLO07   |      |   | * |   |   |   |     | * | * |       |       |       |       | *   |     |       | *     | *     |       |      |   |       |       |       |       |       |       |       |       |       | *     |        |      |   | *     | *     |      | *    |
| PLO08   |      |   | * |   |   |   |     | * |   |       |       |       |       |     |     |       |       |       |       |      |   |       | *     |       |       |       |       |       |       |       |       |        | *    | * |       |       |      |      |
| PLO09   |      | * |   |   |   |   |     | * | * |       |       |       |       |     |     |       | *     |       |       |      | * |       |       |       | *     |       |       |       |       |       | *     |        |      | * |       |       | *    |      |
| PLO10   |      |   |   |   |   |   |     | * |   |       |       |       |       |     |     |       |       | *     |       |      |   |       |       |       |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO11   |      |   |   |   |   | * |     |   |   |       |       |       |       |     |     |       |       |       |       | *    |   |       |       |       |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO12   |      |   |   |   |   | * |     |   |   |       |       | *     |       |     |     |       |       |       |       | *    |   |       |       | *     |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO13   |      |   |   |   |   |   |     |   |   | *     |       |       |       |     |     |       |       |       |       |      |   |       |       |       |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO14   |      |   |   |   | * |   |     | * |   |       | *     |       |       |     |     | *     | *     |       |       |      |   |       |       |       |       | *     | *     |       |       |       |       |        |      |   |       |       |      |      |
| PLO15   |      |   |   |   |   |   |     |   |   | *     |       |       |       |     |     |       |       |       |       |      |   |       |       |       |       |       |       |       |       |       |       | *      |      |   |       |       |      |      |
| PLO16   | *    |   |   | * |   |   | *   |   |   | *     |       |       |       |     |     | *     |       |       |       |      |   | *     |       |       |       |       | *     | *     |       |       |       |        |      |   |       |       |      |      |
| PLO17   |      |   |   |   |   |   |     |   |   |       |       |       |       |     |     |       |       |       |       |      |   |       |       |       |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO18   | *    | * | * | * | * | * | *   | * | * | *     | *     | *     | *     | *   | *   | *     | *     | *     | *     | *    | * |       | *     | *     | *     |       | *     | *     | *     | *     | *     | *      | *    | * | *     | *     | *    | *    |
| PLO19   |      |   |   |   |   |   |     |   |   |       |       |       |       |     |     |       |       |       | *     | *    |   |       |       | *     |       |       |       |       |       |       |       |        |      |   |       |       |      |      |
| PLO20   |      | * | * | * |   |   | *   | * | * |       |       | *     | *     | *   | *   |       |       | *     |       |      | * |       | *     |       | *     |       |       |       | *     | *     |       | *      |      | * | *     | *     | *    |      |
| PLO21   | *    | * | * | * |   |   | *   | * | * | *     |       |       | *     | *   | *   |       |       | *     |       |      | * |       | *     |       |       |       |       |       | *     | *     |       | *      |      | * | *     | *     | *    |      |
| PLO22   | *    | * |   |   |   |   |     |   |   |       |       |       |       |     |     |       |       |       |       |      |   |       |       | *     |       |       |       |       |       |       |       |        |      |   |       |       |      |      |

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