



Digit-BioTech

Competence Profiles

PROFESIONAL AREAS: BIOLOGY, CHEMISTRY, AGRICULTURE AND
FOOD SUPPLY, MEDICINE, ICT

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DIGIT~Bio~TECH

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PREFACE

Competency has diverse implications and remains one of the foremost diffuse terms within the organizational and occupational literature. Competencies are moreover what individuals need to be effective in their jobs. They incorporate all the related knowledge, skills, abilities, and attributes that shape a person's work. This set of context-specific qualities is related with effective work execution and can be utilized as a standard against which to measure job performance as well as to select and hire employees. Therefore, the development of contemporary well-defined descriptors, giving detailed information for required competences in different professional areas, is of utmost importance to train students with a foundation of knowledge but also with the skills necessary to effectively apply the latest advancements in different areas of technologies when they enter the profession and further develop themselves.

Furthermore, the Industrial Revolution 4.0 changes the world through applying technologies like the Internet of Things (IoT), Big Data, and Artificial Intelligence (AI). Industry 4.0 has major impact on economy and in turn transforms the way jobs and education are seen. It leads to the advancement of Education 4.0 and encourages the novel approaches for student's education. Consequently, a necessity arises for a workforce equipped with corresponding knowledge and skills, well prepared for this technologically transformed era. Thus, the concept of digital competencies has been developed simultaneously with the technological advancement and as society has identified the need for modern competences. Development of IT sector empowers and continually sets new goals and objectives, boosting the significance of digital competence and making it mandatory part of the personal occupation profile.

Moreover, supporting the green jobs through contemporary HE is central to the sustainable development and respond to the global challenges of environmental protection, economic development, social inclusion and currently launched European Green Deal. Thus, easier transition to a cleaner economy can be expected and opportunity to boost sustainable and job-intensive economic growth. Identifying the key “green abilities”, essential for each professional area, will further assist individuals to stand and being ultimately equip with the skills supporting their long-term career pathways.

PROFESSIONAL AREA: Biology

Professional area	Professional area	Educational level	General abilities (knowledge, skills, competences) (common for Groups 1 to 5)	Special “green” abilities (knowledge, skills, competences)	Digital abilities (knowledge, skills, competences)
biology	Group 1		Professionals from Biology area study living organisms (human, animals, plants and microorganisms) and their interactions with each other and with the environment, and apply this knowledge to solve human health, economic, social and environmental problems.	Group 1	Group 1
	Life Science Professionals <ul style="list-style-type: none"> • Biologists 	BSc, MSc, PhD	<p>Their knowledge and skills have to meet the requirements of 3rd and / or 4th ISCO-08 / ESCO skill level.</p> <p>They can:</p> <ul style="list-style-type: none"> • implement, develop and improve new scientific methods and methodologies, concepts, products and processes • design and conduct laboratory research, experiments and tests and analyze obtained results • solve problems in environment, agriculture and health areas • gather biological specimens and data, and study their origin, chemical and physical form, structure and composition • examine living organisms using a variety of specialized equipment, instruments, technologies and techniques • identify, classify, record and monitor living organisms and 	<ul style="list-style-type: none"> • measure physical parameters of different environments to determine their relationship to their habitants • study living organisms and their reactions to harmful environmental conditions affecting them • determine methods of improving environmental conditions including economic outputs • prepare technical and research environmental impact reports, and communicate the results to individuals in industry, government, the general public • elaborate plans for management of renewable resources 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • CLC Sequence Viewer • Gene Codes Sequencer • The MathWorks MATLAB • Structured query language SQL • National Instruments LabVIEW • ESRI ArcGIS software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams

	Group 2			Group 2	Group 2
	Microbiology Professionals	BSc, MSc, PhD	<ul style="list-style-type: none"> maintain databases write scientific papers and reports detailing research and any new findings, which are then made available to the scientific community in scientific journals or at scientific events design and carry out environmental impact assessments to identify changes caused by natural or human factors conduct theoretical or practical training in one or more disciplines at different educational levels provide advice to government, organizations and business units in areas such as conservation, management of natural resources, the effects of climate change and pollution be involved in the performance of combinations of all these activities 	<ul style="list-style-type: none"> examine morphological and physiological characteristics to identify and classify microorganisms in environmental specimens monitor and perform tests on water, food, and the environment to detect harmful microorganisms or to obtain information about sources of pollution, contamination, or infection develop new products and procedures for microbial contamination detection carry out waste treatment and bioremediation activities with microorganisms 	<ul style="list-style-type: none"> Skype and etc. <p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> BD Biosciences CellQuest Protein Explorer Gene Codes Sequencer TreeView BD Biosciences CellQuest Computer Service & Support CLS-2000 Laboratory System Database management software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> Email software Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> Google Meet Microsoft Teams Skype and etc.
	Group 3				Group 3

	Biotechnology Professionals	BSc, MSc, PhD		<ul style="list-style-type: none"> • monitor and analyze pollutants • mind national / international standards in waste treatment • oversee waste treatment facilities effectiveness • establish and recommend different methods for waste treatment, reducing and bioremediation • introduce alternative ways for reusing of wastes 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Protein Explorer • Gene Codes Sequencer • BD Biosciences CellQuest • Agilent ChemStation • GE Energy GateCycle • Fleet Asset Management and Optimization Solutions FAMOS PEPSE and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc. 		
	Group 4					Group 4	Group 4
	Biochemistry Professionals	BSc, MSc, PhD				<ul style="list-style-type: none"> • develop and execute biochemical tests to detect diseases, genetic disorders, or other 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Fujitsu BioMedCache
	<ul style="list-style-type: none"> • Biochemists 						

			<p>abnormalities caused by pollutants and measure chemical toxicity</p> <ul style="list-style-type: none"> design products to measure or monitor different pollutants develop alternative processes to produce crude oil from wastes carry out biocatalytic processes to convert biomass to fuels or fine chemicals, using microbial enzymes perform simulations or models to predict the impact of environmental factors, such as pollutants, climate change, or environmental remediation efforts 	<ul style="list-style-type: none"> ChemInnovation Software Chem 4-D Sequence database software Golden Helix ChemTree Molecular Networks GmbH Biochemical Pathways Molecular Devices Corporation MetaFluor Molecular Simulations WebLab ViewerPro and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> Email software Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> Google Meet Microsoft Teams Skype and etc. 			
	Group 5		Group 5	Group 5			
	<table border="1"> <tr> <td style="width: 50%;">Water Science Professionals</td> <td style="width: 50%;">BSc, MSc, PhD</td> </tr> <tr> <td colspan="2"> <ul style="list-style-type: none"> Hydrobiologists Marine Biologists Drink Water Biologists </td> </tr> </table>	Water Science Professionals	BSc, MSc, PhD	<ul style="list-style-type: none"> Hydrobiologists Marine Biologists Drink Water Biologists 			<ul style="list-style-type: none"> develop, conduct, or oversee the conduct of chemical, physical, and biological water quality monitoring, sampling,
Water Science Professionals	BSc, MSc, PhD						
<ul style="list-style-type: none"> Hydrobiologists Marine Biologists Drink Water Biologists 							

			<p>assessment methods to ensure compliance with water quality standards</p> <ul style="list-style-type: none"> • identify and characterize specific causes or sources of water pollution • monitor water use, demand, or quality and identify methods for distributing purified wastewater into natural waters • perform hydrologic, hydraulic, or water quality modeling • develop strategies for water supply demands, water loss reduction, sanitation and their regulatory bases 	<ul style="list-style-type: none"> • Wallingford Software InfoWater • Scientific Software Group RIVERMorph • Water resources databases and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 6		Group 6	Group 6
	<p>Environmental Protection Professionals</p> <ul style="list-style-type: none"> • Ecologists • Ecologists, animals • Ecologists, plants 	<p>BSc, MSc, PhD</p>	<ul style="list-style-type: none"> • monitor and analyze changes designed to improve the environmental performance of complex systems to avoid unintended negative consequences 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Clover Technology GALENA • CropSyst Suite • Water Soil and Hydro-Environmental Decision Support System WATERSHEDSS

			<ul style="list-style-type: none"> • plan or conduct field research on industrial production, industrial ecology, population ecology, and environmental production or sustainability • conduct applied research on the effects of industrial processes on the protection, restoration, inventory, monitoring, and reintroduction of species to the natural environment • carry out environmental assessments in accordance with applicable standards, regulations, laws • create complex and dynamic mathematical models of population, community, ecological systems • promote use of environmental management systems (EMS) to reduce waste, to minimize environmental damage from industrial production practices or to improve environmentally sound use of natural resources 	<ul style="list-style-type: none"> • State Soil Geographic STATSGO Database • Water resources databases • Geographic information system GIS software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
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Group 7		Group 7	Group 7
Life Science Professionals	BSc, MSc, PhD		
<ul style="list-style-type: none"> Bioinformatics 		<ul style="list-style-type: none"> develop new software applications or improve and customize existing ones to meet requirements in biology field of researches research data and develop tools to analyze, store and present biological or environmental related problems, recommend technology-based solutions and predict their environmental impact develop biology data models and databases design and apply bioinformatics algorithms to manipulate publicly accessible, commercial, or proprietary genomic, proteomic, or post-genomic database use statistics and information technologies to analyze large molecular or environmental datasets for clinical or molecular biology research purposes prepare bioinformatics reports and advice biological specialists 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> GenePattern Life Technologies SOLiD SAS The MathWorks MATLAB Oracle PL/SQL GitHub Apache Hadoop and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> Email software Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> Google Meet Microsoft Teams Skype and etc.

PROFESSIONAL AREA: Chemistry

Professional area	Professional area	Educational level	General abilities (knowledge, skills, competences) (common for Groups 1 to 5)	Special “green” abilities (knowledge, skills, competences)	Digital abilities (knowledge, skills, competences)
Chemistry	Group 1			Group 1	Group 1
	Life Science Professionals <ul style="list-style-type: none"> • Chemists • Chemists, inorganic chemistry • Chemists, organic chemistry • Chemist – analysts 	BSc, MSc, PhD	<p>Chemistry professionals conduct qualitative and quantitative chemical analyses and experiments in laboratories for quality or process control and development of new products.</p> <p>Their knowledge and skills have to meet the requirements of 3rd and / or 4th ISCO-08 / ESCO skill level.</p> <p>They can:</p> <ul style="list-style-type: none"> • learn, implement and enhance existing knowledge in a concrete professional area • implement, develop and improve new chemical methods and methodologies, concepts, products and processes • gather environment specimens and data, and study their chemical form, structure and composition • design and conduct laboratory research, experiments and tests and analyze obtained results • apply chemical knowledge for testing, development and improvement of materials, industrial products and the processes efficiency • train and consult on technological aspects of special 	<ul style="list-style-type: none"> • gather and analyze organic or inorganic compounds of environmental origin to determine chemical or physical properties, composition, structure, relationships or reactions using specialized techniques • measure chemical parameters of different environments to determine the relationship to their inhabitants • determine chemical methods for improvement of environmental conditions • prepare technical and research reports on environmental impact of chemicals and communicate the results to different targets: industry, business, government • plan, develop and implement programmes / policies regarding chemical approaches for improvement of environmental habitats 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Agilent ChemStation • Waters Empower Chromatography Data Software • ChemInnovation Software Chem 4-D • ChemSW Molecular Modeling Pro • LabTrack Electronic Lab Notebook • Molsearch Pro • ChemSW Laboratory Document Control System LDCS and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook

		<p>materials, products and processes</p> <ul style="list-style-type: none"> • conduct theoretical or practical training in one or more disciplines at different educational levels 		<p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 2	<ul style="list-style-type: none"> • provide different types of business and social services 	Group 2	Group 2
	<p>Life Science Professionals</p> <ul style="list-style-type: none"> • Chemists, oils • Chemists, plastic • Chemists, polymers 	<p>BSc, MSc, PhD</p> <ul style="list-style-type: none"> • write scientific papers and reports detailing research and any new findings, which are then made available to the scientific community in scientific journals or at different scientific events • supervise other workers • be involved in the performance of combinations of all these activities 	<ul style="list-style-type: none"> • conduct applied research on the effect of oils, plastic and polymeric materials production on the protection, restoration and remediation of environmental habitats • advice companies for different ways to enhance production efficiency and reduce its environmental impact • monitor and analyze waste production during manufacture of plastic and polymer materials • develop and implement new technologies or improve existing ones for appropriate waste disposal • promote the use of Environmental Management Systems (EMS) to reduce waste and minimize environmental damage from industrial production of plastic and polymer materials 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Minitab • Agilent ChemStation • Chempute Software E-Notebook • ChemSW Molecular Modeling Pro • Molsearch Pro • ChemSW Laboratory Document Control System LDCS • National Instruments LabVIEW and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software

				<ul style="list-style-type: none"> • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 3		Group 3	Group 3
	Life Science Professionals	BSc, MSc	<ul style="list-style-type: none"> • Chemist, manufacture of products • Chemist, chemical quality control 	<ul style="list-style-type: none"> • develop environmentally safe methods and strategies for chemicals' manufacture • conduct quality control test regarding chemical composition and structure of environmental specimens to ensure compliance with environmental specifications • compile and analyze test information to determine process or equipment operating efficiency or to diagnose malfunction during manufacture to fit environmental standards • provide and maintain a safe work environment in production facilities by participating in safety programmes, committees or teams and by conducting laboratory or plant safety audits <p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Agilent ChemStation • Alarm management system software • Distributed control system DCS • Interlock shutdown systems • Coordinated incident management system CIMS software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook

				<u>Desktop communication software:</u> <ul style="list-style-type: none">• Google Meet• Microsoft Teams• Skype and etc.
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PROFESSIONAL AREA: Agriculture and Food-Supply

Professional area	Professional area	Educational level	General abilities (knowledge, skills, competences) (common for Groups 1 to 5)	Special “green” abilities (knowledge, skills, competences)	Digital abilities (knowledge, skills, competences)
Agriculture and Food-Supply	Group 1		Agriculture and food-supply professionals ensure agriculture productivity, food production and food safety and efficient distribution of agriculture labors. They apply knowledge about animals, plants and humans’ life to improve agricultural production and solve food shortage and human health problems.	Group 1	Group 1
	Production Managers in Agriculture, Forestry and Fisheries	MSc, PhD	<p>Their knowledge and skills have to meet requirements of 3rd and / or 4th ISCO-08 / ESCO skill level.</p> <p>They can:</p> <ul style="list-style-type: none"> • plan, direct and coordinate production in agricultural, aquaculture, fishery and food operations • monitor production outputs, costs, quality and quantity • develop and implement technics to improve production efficiency • plan the type, intensity and sequence of operation • perform tests and experiments to identify and control environmental toxins, weed and diseases • organize water supplies systems and equipment 	<ul style="list-style-type: none"> • monitor agricultural and fishery market activity to identify and meet bio-product requirements and demands • implement good agricultural and fishery practices into facilities management plans • introduce technologies that mechanize farming and fishery operations to increase effectivity and productivity • overseen the selection, training and performance of agricultural and fishery workers to improve their knowledge and skills in usage of biocontrol and organic farming methods and technics • implement the national and international policies and regulations for sustainable agriculture and organic food production 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • MapShots EASi Suite • Sunrise Software CropSave • Data entry software • Trimble Farm Works • International Response Technologies CowChip • SAP • SAS • ESRI ArcPad • AGCO Advanced Technology Solutions Fieldsta and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Staff scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams

			<ul style="list-style-type: none"> • coordinate the implementation of health and safety requirements 		<ul style="list-style-type: none"> • Skype and etc.
	Group 2			Group 2	Group 2
	Manufacturing Engineers and Technologists	MSc	<ul style="list-style-type: none"> • provide advices on fertilization, soil erosion, cultivation, harvesting and nutrition • prepare the production records and reports • develop and study production management plans 	<ul style="list-style-type: none"> • design, develop and construct food manufacturing processes and technics stabilizing food ingredients natural properties and enhance their health impact • evaluate and identify opportunities to increase manufacturing process and resources use effectiveness with continues striving to reduce wastes • work with commercial or industrial designers to refine bio-products design • maintain up-to-date of current food safety and quality practices and regulations (GMP and HACCP), ensure their application and taking corrective actions • develop, implement and monitor environmental-friendly food-manufacturing waste disposal 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • IBM SPSS Statistics • Autodesk AutoCAD • Data entry software • Infor Industrial Essentials • Human machine interface HMI software • Supervisory control and data acquisition SCADA software • Materials requirement planning MRP software • Production planning software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software • Microsoft Internet Explorer <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Staff scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook • IBM Notes <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams

					• Skype and etc.
	Group 3			Group 3	Group 3
	Farming, Forestry and Fisheries Advisors	BSc, MSc		<ul style="list-style-type: none"> • develop environmentally safe methods and strategies for controlling or eliminating weeds, crop diseases, or insect pests (integrated weed and pest management – IPM) • develop methods for conserving or managing soil and fisheries to improve their production characteristics • advise land or fisheries users on plans, problems, or alternative conservation solutions. • conduct research into the use of plant and aquaculture species as green fuels or in the production of green fuels • plan, develop, and implement programme or policies for improving environmental habitats, wetlands, water, and soil resources 	<ul style="list-style-type: none"> • CropSyst Suite • Water Soil and Hydro-Environmental Decision Support System WATERSHEDSS • WinEPIC • Autodesk AutoCAD • State Soil Geographic STATSGO Database • Water resources databases • CroPMan • ESRI ArcGIS software and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software • Microsoft Internet Explorer <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Staff scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook • IBM Notes <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
<ul style="list-style-type: none"> • Agronomists • Fisheries advisors • Horticultural scientists • Soil scientists 					

Group 4		Group 4	Group 4
	Life Science Technicians	BSc, MSc	
	<ul style="list-style-type: none"> Agricultural technicians 		<ul style="list-style-type: none"> assist agriculture and food scientists in testing agricultural products and food quality assist in developing and conducting of alternative fertilizer methods to achieve sustainable agricultural processes or practices identify pests and weeds and assisting in devising and applying environmental-friendly methods of control provide information and advice farmers about ways to improve their crops and livestock productivity and efficiency analyze production to set up and maintain standards of quality for bio-products organize and supervise the appropriate farms waste disposal
			<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> Data entry software Statistical software SAP and etc. <p><u>Office suit software:</u></p> <ul style="list-style-type: none"> Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> Email software Microsoft Outlook <p><u>Desktop communication software:</u></p> <ul style="list-style-type: none"> Google Meet Microsoft Teams Skype and etc.

PROFESSIONAL AREA: MEDICINE

Professional area	Professional area	Educational level	General abilities (knowledge, skills, competences) (common for Groups 1 to 5)	Special “green” abilities (knowledge, skills, competences)	Digital abilities (knowledge, skills, competences)
MEDICINE	Group 1		<p>Health professionals provide human health care treatment and advices through the application of principles and procedures of modern or traditional medicine and caring. They have strong knowledge in various illness and provide services that promote health, prevent diseases and deliver health care services to individuals, families and communities.</p> <p>Their knowledge and skills have to meet requirements of 3rd and / or 4th ISCO-08 / ESCO skill level.</p> <p>They can:</p> <ul style="list-style-type: none"> • conduct physical examinations of patients to determine their health status • prescribe and administer curative treatments and preventive measures • conduct researches into human disorders and illnesses and preventive or curative methods • obtain and analyze human healthcare scientific data • improve or develop concepts, theories and operational methods • monitor patients’ progress and response to treatment 	Group 1	Group 1
	Medical Doctors	MSc		<ul style="list-style-type: none"> • Generalist Medical Practitioners • Specialist Medical Practitioners 	<ul style="list-style-type: none"> • identify and analyze the possible connection between illness, disease or disorder and environmental conditions • advice individuals, families and communities on health, nutrition and life style behavior • provide referrals to patients and families for specialized healthcare establishments as rehabilitation or health resort centers • provide information about preventive measures, treatment and care • conduct researches into healthy lifestyle in order to improve the human health prevention and disseminate the findings • plan and participate on programmes and event designed to prevent human health
	Group 2			Group 2	Group 2

	Nursing and Midwifery Professionals	BSc	<ul style="list-style-type: none"> • exchange medical information to ensure continuing and comprehensive care • plan, supervise and evaluate the implementation of care and treatment plans • promote human healthcare • prepare scientific papers and reports 	<ul style="list-style-type: none"> • identify the potential risks for patient or pregnant women according to their lifestyle and environmental conditions • recommend interventions to modify behavior associated with health risks • advice women and families and conducting communities' education on healthcare prevention, hygiene, nutrition, exercises and sport activity to reduce risk factors or prevent diseases • maintain the departmental policies and procedures in environmental safety infection control and disposal of biological wastes • advocate for assessable health care that minimizes environmental health risks 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • MEDITECH software • Epic Systems • Medical condition coding software • Healthcare common procedure coding system HCPCS and etc. <p><u>Office suite software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software • Microsoft Internet Explorer <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software <p><u>Desktop communications software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc. 	
	Group 3				Group 3	Group 3
	Traditional and Complementary Medicine Professionals	MSc, BSc			<ul style="list-style-type: none"> • develop and implement treatment plans for physical, mental and physiological ailments using environmental friendly technics such as acupuncture, 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Electronic health record HER software • AcuBase Pro • Miridia Technology AcuGraph and etc.
	<ul style="list-style-type: none"> • Traditional and Complementary Medicine Professionals 					

			<p>homeopathic and herbal medicine</p> <ul style="list-style-type: none"> • provide health, nutrition and lifestyle advice based on specific cultures and traditions to patients, families and communities • prescribe and prepare organic biomedicines, such as herbals, plant and animal extracts to stimulate the body self-recovery • conduct researches into natural medicines and treatments of diseases and disseminating findings • maintain and follow quality, biosafety and environmental protection standards and protocols 	<p><u>Office suite software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software • Microsoft Internet Explorer <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software <p><u>Desktop communications software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 4		Group 4	Group 4
	Paramedical Practitioners	BSc	<ul style="list-style-type: none"> • Paramedical Practitioners 	<ul style="list-style-type: none"> • advice patients and families on diet, exercises and other habits which aid diseases prevention and healthcare practices • dispose of biological materials and contaminated supplies according to approved environmental safety procedures <p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • MEDITECH software • MedDataSolutions Regist*r and etc. <p><u>Office suite software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software • Microsoft Internet Explorer <p><u>Information retrieval or search software:</u></p>

				<ul style="list-style-type: none"> • Epocrates • HyperTox • Skyscape Rosen and Barkin's 5-Minute Emergency Medicine Consult • TechOnSoftware HazMatCE Pro <p><u>Desktop communications software:</u></p> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 5		Group 5	Group 5
	Other Health Professionals (incl. Dentist, Pharmacists etc.)	MSc, BSc	<ul style="list-style-type: none"> • identify environmental factors that can potentially affect human health • develop and implement programmes and policies to minimize environmental risk to health • assess, plan and implement programmes to enhance the impact of food and nutrition on human health • provide preventive health care • educate patients and families on hygiene, nutrition and other measures to take care of their health • prepare and implement plans and strategies for 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Practice management software PMS • Epic Systems • MEDITECH software • MNT Northwest MNT Assistant • BioEx Systems Nutrition Maker Plus and etc. <p><u>Office suite software:</u></p> <ul style="list-style-type: none"> • Microsoft Office <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software
<ul style="list-style-type: none"> • Dentists • Pharmacists • Environmental and Occupational Health and Hygiene Professionals • Physiotherapists • Dietitians and Nutritionists • Audiologists and Speech Therapists • Optometrists and Ophthalmic Opticians • Other health professionals 				

			<p>the safe and suitable disposal of medical wastes</p> <ul style="list-style-type: none">• develop, implement and monitor programmes to minimize environmental pollutions, including biological and chemical hazard	<p><u>Desktop communications software:</u></p> <ul style="list-style-type: none">• Google Meet• Microsoft Teams• Skype and etc.
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PROFESSIONAL AREA: Information and communication Technologies (ICT)

Professional area	Professional area	Educational level	General abilities (knowledge, skills, competences) (common for Groups 1 to 5)	Special “green” abilities (knowledge, skills, competences)	Digital abilities (knowledge, skills, competences)
Information and communication technologies	Group 1			Group 1	Group 1
	Software and Applications Developers and Analysts <ul style="list-style-type: none"> • Systems Analysts • Software Developers • Web and Multimedia Developers • Applications Programmers 	BSc, MSc, PhD	<p>Information and communication technology professionals provide goods and services related to information and communications technologies (ICT). They have fundamental knowledge in field of electronic and information systems, computer networks and computer programming as well as develop solutions to problems in the field of computer hardware and software.</p> <p>Their knowledge and skills have to meet requirements of 3rd and / or 4th ISCO-08 / ESCO skill level.</p> <p>They can:</p> <ul style="list-style-type: none"> • conduct researches, analyze and disseminate findings • identify areas for improvement and researching the theoretical aspects and operational aspects for the use of computers • evaluate, plan and design hardware or software for specific applications • design, test and improve information technology systems • write, test and maintain computer programs 	<ul style="list-style-type: none"> • conduct research on computer systems energy consumptions and divide into categories • plan, design and test information technology systems to improve their efficiency levels to energy allowances • conduct research into theoretical aspects of and operational methods for the long-life use of computers components • evaluate, plan and design software or hardware configurations having environmental save impact • design, write, test and maintain software products and manuals to be download and re-used • evaluate, plan and design inter/intranet and other multimedia systems providing information about environmental-friendly computers technologies 	<p><u>Specific professional area software:</u></p> <ul style="list-style-type: none"> • Citrix • Minitab • SAS • MATLAB • Apache Ant • C++ • Oracle Java • Python • JavaScript • Linux • Selenium • Apache Tomcat • Microsoft Visual Basic • Junit and etc. <p><u>Office suite software:</u></p> <ul style="list-style-type: none"> • Microsoft Office • Google Drive <p><u>Internet browser software:</u></p> <ul style="list-style-type: none"> • Web browser software <p><u>Calendar and scheduling software:</u></p> <ul style="list-style-type: none"> • Scheduling software <p><u>Electronic mail software:</u></p> <ul style="list-style-type: none"> • Email software • Microsoft Outlook

		<ul style="list-style-type: none"> develop, maintain and support database architecture and database management systems develop and implement security plans and data administration policies 		<p><u>Desktop communications software:</u></p> <ul style="list-style-type: none"> Google Meet Microsoft Teams Skype and etc.
	Group 2		Group 2	Group 2
	<p>Database and Network Professionals</p> <ul style="list-style-type: none"> Database Designers and Administrators Systems Administrators Computer Network Professionals 	BSc, MSc	<ul style="list-style-type: none"> administer computer networks and related computing environments analyze, develop and evaluate complex systems design and architecture specifications, data models and diagrams 	<ul style="list-style-type: none"> design, develop, maintain and support the optimal performance of information technology systems to improve their efficiency and decrease energy cost design and develop new environmental save oriented database architecture and structures design, construct, modify and implement security plans, policies and standards for long life and sustainable usage of databases maintain and administer computer networks and cloud-based computing environments and databases analyze, develop and evaluate complex architecture specifications and data models in the development and integration of computer systems for environmental save purpose

				<u>Desktop communications software:</u> <ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 3	Group 3	Group 3	Group 3
	ICT Operations and User Support Technicians	BSc, MSc	<ul style="list-style-type: none"> • ICT Operations Technicians • ICT User Support Technicians • Computer Network and Systems Technicians • Web Technicians 	<ul style="list-style-type: none"> • monitor computer systems and peripheral equipment performance for failures and errors which could lead to increase the energy consumption • oversee load and load the peripheral equipment with environmental-friendly materials • install, monitor and support the reliability, usability and efficiency of websites and web servers' hardware and software • provide information to customers about new and more efficient software, hardware and peripheral computer components • advise users about the ways to lower computer energy consumption and appropriate component and peripheral equipment wastes disposal

				<ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 4		Group 4	Group 4
	Architects, Planners, Surveyors and Designers	BSc, MSc		<ul style="list-style-type: none"> • consult with clients and stockholders to understand and determinate the objectives of environmental oriented multimedia content • formulate and develop multimedia design concepts for ecological and bio-safe products and processes • design graphic and multimedia computer based presentation about environmental protection • create 2D- and 3D-dimentional pictures in motion or presentations to illustrate climate changes processes • select, specify or recommend functional and aesthetical materials and media for programmes and customers, working in environmental protection field
<ul style="list-style-type: none"> • Graphic and Multimedia Designers 				

				<ul style="list-style-type: none"> • Google Meet • Microsoft Teams • Skype and etc.
	Group 5		Group 5	Group 5
	Teaching Professionals	BSc, MSc, PhD		<ul style="list-style-type: none"> • identify the information and bioinformatics technology training needs and requirements of individual users and institutions • prepare and develop specific instructional training materials and aids • design, coordinate and conduct trainings and programmes to demonstrate the ICT application in ecology and environmental protection areas • keep up to date with more efficient IT products and trends having lower environmental impact • advice and train individuals and institutional staff on right ways to decrease computers and components energy consumption and disposal
<ul style="list-style-type: none"> • Information Technology Trainers 				