Module specifications handbook

WORK4CE – Cross-domain competences for healthy and safe work in the 21st century

Partner Universities:

P01 - National University Zaporizhzhia Polytechnic (NU-ZP)

P02 – Fachhochschule Dortmund (FHDo)

P03 – Katholieke Universiteit Leuven (KU Leuven)

P04 - Universidad del Pais Vacso/Euskal Herriko Unibertsitatea (UPV/EHU)

P05 - Kyiv National University of Construction and Architecture (KNUCA)

P06 – West Ukrainian National University (WUNU)

P07 – Azerbaycan Respublikasi Dovletgomruk Komitesinin Akademiyasi (ASCCA)

P08 – Azerbaycan Dovlet Neft ve Senaye Universiteti (ASOIU)

P09 - Azerbaijan Architecture and Construction University (AzUAC)

V0.02 30/11/2021

Contents

M01 Data Analytics for Work

Module owner: NUZP, Sergey Subbotin,

Module owner's email address: subbotin@zntu.edu.ua

Date of publishing: 26.10.2021

Short overview of module:

The couse intended for MS students and practicals in Computer Science. The students will be familiarized with methods of data analytics, will receive both theoretical and practical knowledge to use the methods and to develop software for data analytics for various problem specific domain. The course provide theory and practive in Exploratory Data Analysis (EDA) and Data Visualization, Unsupervised learning. Cluster Analysis, Supervised machine learning. Support Vector Machines and Decision Tree for Data Analysis., Prediction and Decision Making, and Results Visualization. For all competences we will use lectures, laboratory works and self-study. The Activity Plan during one semester contains theory classes and laboratory works of 2h of which per week (15 weeks), also as Homework and self-study (120 h). Competence Assessment: exam (written) – 50%, laboratory works (defended reports) – 50%.

Overall Learning Outcome: Please describe here the general learning outcome of the module in 4-5 lines (key topics, "philosophy" of the module, overall competence gain).

The students will be familiarized with methods of data analytics, will receive both theoretical and practical knowledge to use the methods and to develop software for data analytics for various problem specific domain.

Target Group:

- students of MSc programs in Computer Science,
- practical specialists in programming (needs: data analytics to develop decision making and analytic software, prerequisites: Python/R programming language, Mathematics, previous competences: ability to develop computer programs),
- practical specialists and students in various applied domains (needs: to identify and predict states of multidimensional objects and processes, prerequisites: Python/R programming language, Mathematics, previous competences: ability to use computer programs, ability to solve tasks from applied domain).

Competences & Learning Outcomes:

The main competences according to European Qualification Framework (EQF) Level 7 (Master):

- knowledge: highly specialized knowledge in methods and tools of data analytics, which is at the forefront of knowledge in a field of work and study, as the basis for original thinking and/or research, the critical awareness of knowledge issues in a field and at the interface between different fields;

- skills: specialized problem-solving skills on data analytics application required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields;

- responsibility and autonomy: manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice.

Main topics of the module as bullet points:

- Exploratory Data Analysis (EDA) and Data Visualization
- Unsupervised learning. Cluster Analysis
- Supervised machine learning. Support Vector Machines and Decision Tree for Data Analysis.
- Prediction and Decision Making, and Results Visualization.

Course structure:

Exploratory Data Analysis and Data Visualization with R programming

Topic 1. Introduction to R Programming.

Data types. Reading Data. Subsetting. Vectorized Operations. Control Structures. Functions. Scoping. Coding Standards. Dates and Times. Loop functions (lapply, apply, mapply, tapply). Split data. Debugging.

Topic 2. Exploratory Data Analysis with data. Dplyr package.

Subsetting and Sorting. Summarizing data. Merging data. Editing text variables. dplyr package. Data table package.

Topic 3. Applied Plotting.

Principles of Information Visualization. Plotting Systems in R. Base Plotting System. Graphic Devices. ggplot2.

Unsupervised learning. Cluster Analysis
Topic 1. Basics of unsupervised machine learning.
Topic 2. Methods of centroid-based cluster analysis.
Topic 3. Methods of connectivity-based cluster analysis.
Supervised machine learning. Support Vector Machines and Decision Trees for Data Analysis.
Topic 1. Basics of Supervised machine learning.
Topic 2. Support Vector Machines
Topic 3. Decision Trees

Prediction and Decision Making, and Results Visualization.
Topic 1 Prediction
Topic 2 Decision Making,
Topic .3 Results Visualization

Teaching/Learning Methods:

For all competences we will use lectures, laboratory works and self-study

The Activity Plan during one semester contains theory classes and laboratory works of 2h of which per week (15 weeks), also as Homework and self-study (120 h)

Students read the lecture notes and course books, online tutorials, and prepare templates for laboratory work reports (including program code, written answers on key questions according to the student variant specified by the teacher).

Competence Assessment:

- exam (written) – 50%
- laboratory works (defended reports) – 50%

M03 Industry 4.0

Module owner: KU Leuven, contact person Peter Arras

Module owner's email address: peter.arras@kuleuven.be

Date of publishing: 2021/11/02

Short overview of module (max 500 words):

Industry 4.0, the fourth industrial revolution, in which all parts of a company and its processes gets connected over the internet, has a lot of impact on companies. Not only from the point of view of technology, but at the same extend on business processes in the company and on project management.

The digital transformation of the company and processes is studied in this module M03.

The M03 module will teach students the challenges and consequences of digital transformation in an Industry 4.0 environment.

For this, students need introduction knowledge on the key emerging technologies which are the core of Industry 4.0.

The module starts with an introduction on the history of industrialization and Industry 4.0, with the differences and enhancements of each of the different industrial revolutions.

After the description of Industry 4.0, the module takes in consideration the consequences of the industry 4.0 revolution (change management) on the organization of work, of the organizations, of the economic impact and of the technological switch the organizations have to make or will undergo.

Students will choose a set of electives on a more in depth exploration of the key technologies of Industry 4.0. These key technologies include technologies as additive manufacturing, digital twins, IoT, data analysis, reliability and preventive maintenance.

Finally industry 4.0 case studies are used to give a round-up and examples of implementation.

Overall Learning Outcome:

Students learn the roots of digital transformation towards Industry 4.0 and understand how to overcome the challenges of digital transformation projects and the implications of the process of the introduction of Industry 4.0 into an organization. Key processes are the change management and effects on project management.

To understand the technological challenges for digital transformation towards Industry 4.0, students get knowledge on the key emerging technologies which are at the core of Industry 4.0.

Target Groups:

- Master students in project management and in engineering
- Lifelong learning students (professionals)

Course structure:

The Module M03 Industry 4.0 is conceived as containing 3 compulsory courses:

- Introduction to Industry 4.0 (2ECTS)
- Consequences and pathways to Industry 4.0 project management (2 ECTS)
- Industry 4.0 case studies (depending on the context at the partner HEI, can be integrated in the local courses of the module)

And electives on the technical topics (minimum 2 electives)

- IoT
- Digital twins
- Additive manufacturing
- Quality of industrial systems/predictive maintenance/condition monitoring
- BIM" (Building Information Modelling)
- Data analysis for industry 4.0/Use of Big Data

Competences & Learning Outcomes:

Core courses:

- Student will learn the roots of digital transformation towards Industry 4.0.
- Student understands how to overcome the challenges of digital transformation projects.
- Student have knowledge about real cases from different industries
- Student have knowledge about business and organization demands related to industry 4.0
- Student will outline challenges of organization to deal with Industry 4.0
- Students will have knowledge of the management processes that Industry 4.0 projects require

Elective courses:

Depending on the elective.

The electives is all courses on technological aspects. Besides knowledge also skills will be taught. For this the elective courses often are completed with labsessions and practica.

Main topics of the module as bullet points:

Core courses:

- Brief history of needs that caused evolution from industry 3.0 towards industry 4.0.
- What are elements of Industry 4.0 and their definitions?
- Industry 4.0 definitions, frameworks, scenarios and applications
- Industrial internet
- Dominant technologies and trends of elements
- Organization and Business interaction with Industry 4.0
- Project management methods tailoring for industry 4.0
- Business and Organization's Structure tailoring for Industry 4.0: What will be the challenges for adopting industry 4.0 in different structure of business and organization, how to deal with challenges and what are success and failure stories
- Financial systems tailoring for industry 4.0: financial services that are beneficial for implementation in industry 4.0;

Elective courses:

- IoT standardization and implementation
- Cloud and fog technologies as the basis of the IoT concept

- The concept of modelling and virtual representations of physical worlds
- Measurement and data generation
- Predictive maintenance with Digital Twin

- Additive manufacturing design guidelines
- AM process overview with real printed parts
- Topology optimization
- Part re-design for additive manufacturing
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- Digital twin in civil engineering: how to translate model to communication in construction application
- Quality of industrial systems
- Dependability, security and safety
- E-Maintenance
- Intelligent predictive maintenance

Teaching/Learning Methods:

- Webinars, knowledge clips, e_learning
- Blended learning: flipped classrooms.

Competence Assessment:

- For the core courses a written exam and an assignment is used for evaluation.
- For the technological (elective) courses written exams, lab-work evaluation and an assignment.

M04 Distributed Teams

Module owner: Olena Verenych, Kyiv National University of Construction and Architecture

Module owner's email address: verenych@ukr.net

Date of publishing: 02/11/2021, v.1.0

Short overview of module:

The informational technologies' growth and development are the basis of the new world appearance around us. We live in a virtual digital world. The new technologies provides us with opportunities of receiving new products and services that were not available in the physical world. We started a non-stop journey in virtual world.

This world opens new opportunities and creates new challenges. If our competencies are suitable, we can work in any place even without having an "official office". We might be at any location in the world and at the same time working. This feature of virtual environment breaks many borders around us e.g. borders between countries or learning in a specific universities in one country. However, It needs new competences, and one of them is how to work in a new work environment which is called the digital environment.

- How to work in it?
- How to find responsible and goal-oriented people?
- How to create a trust and comfortable working atmosphere during performing a work?
- How to organize work with a team which members are from the opposite sides of the Earth?
- Do you work with people who have different working approaches based on cultural diversity?
- How to avoid appearing conflicts, and manage team for constructive work organization?
- How to hire a competent employee who can be listening other people and be in the process of decision creation?
- How to present itself in the digital environment?
- How to make the digital environment comfortable for employees and employers?

Those are only a little bit of part of questions and problems that come to mind when people start to work in the digital environment. Do you know the answers to these questions? If you know, you should be in our teachers' team, but if you don't know you can be our student, and we will try to open doors in this world that you feeling itself in it more comfortable and calmly. Our module was created for all people who want to know how to organize, manage and work in the online environment, be able to create suitable results, and a receiving fruitful working team. The module content concerns the organizational, psychological, social, cultural, and management aspects of working in the digital world. As well, we touch on the technical aspects of using popular software for communication. If you don't know how to manage the working area for involving all your employees in the working processes, we will present some useful techniques. And of course, the module touches the communication in the aspects of constructive communication and argumentation.

Overall Learning Outcome:

- Technical Competence: know and use software for the organization of the communication and work processes in online environmental
- Professional Competence: manage the distributed team from the organization (hiring) to disbanding, allowing for psychology types, motivation aspects, control and communication approaches, conflict avoiding and leadership using, using critical listening, and preparing logical and correct argumentations without emotional influence
- Global Competence: use cultural diversity, social awareness, involvedness, pay attention to language differences

Target Group:

Students:
Needs:

- to gain knowledge, competence, and skills of management and collaboration work with workmates (team members) in on-line environmental based on the state-of-the-art informational-communication technologies in the digitalization era for set goals and successful projects implementation

Prerequisites and previous competencies:

- students should have technological knowledge on technology (general), basic knowledge on office applications, and main principles of business communicative, Intercultural Communication, Social Competence, Psychology (are recommended)

Prospective Job Field:

- IT industry, Project management, Research, Business Administration, International Business, Outsourcing, Finance

Competences & Learning Outcomes:

Knowledge
The Student

- knows the basics characteristics of a distributed team and its differs from offline teams
- knows distributed team life-cycle
- has knowledge of the organization and working in/with a distributed team
- define manage tasks and processes for a distributed team members
- match a distributed team members based on the people's trait of character

Skills
The student

- can organize a distributed team
- applies the algorithm of the constructive communication and different control types for a work realization
- creates trust and well-organized online working environmental

- takes into account cultural diversity and uses Intercultural communication
- uses leadership skills for leading a distributed team for goals
- chooses appropriate software for a working environment created for a distributed team
- can apply knowledge from the different fields for set goals achievement
- manages team cooperation using methods and approaches of facilitation
- can use knowledge to create new products, services, processes, policies, new business models, or jobs

Competence
The student

- can trains to an ability to argue opinions and present them in an online environment
- assume responsibility for a project's results to companies and discuss them in a professional context
- monitor work processes based on motivation approaches for the creation of deep employees' involvedness
- lead a team of the project implementation

Main topics of the module as bullet points:

- Distributed teams – pros and cons
- Distributed Team's lifecycle model.
- Hiring: KSAOs desired in distributed team members.
- The team creation models
- Kick-off organization
- Organizational management
- Development of the intra-team rules
- Key success factors of the Distributed Team vs Major challenges.
- Recognition of achievements

Course structure:
0.Pre-testing
Includes tests about basic concept of distributed teams and virtual team, that student can estimate his current level.
I. Introduction
I.1. Definition and Context.
I.2. History of distributed teams.
I.3. Distributed teams – pros and cons
I.4. Distributed Team's lifecycle model.
LIFECYCLE
II. Preparation Phase
II.1. Hiring: KSAOs desired in distributed team members.
II.2 Trust
II.3 Shared vision.
II.4. Tools for virtual communication
III. Team development Phase
III.1. The team creation models

III.2. Psychological character types
III.3. Cultural diversity
III.4. Distributed Team training
II.5. Reward system

IV. Launch Phase

IV.1. Kick-off organization
IV.2. Distributed jobs between the team members
IV.3. Organizational management
IV.4. Regulation of the communication
IV.5. Development of the intra-team rules
IV.6. Topic presentation

V. Performance management Phase

V.1. Leadership
V.2. Control management
V.3. Motivation aspects
V.4. Constructive communication
V.6. Conflicts in the distributed team
V.7. Key success factors of the Distributed Team vs Major challenges.
V.8. Facilitation (what is it, how it is using in the DT, methods of facilitation)
IV.9. Topic presentation

VI. Disbanding Phase

V.1.Recognition of achievements
V.2. Re-integration of team members

VII. Post-testing

Includes tests about basic concept of distributed teams and virtual team, that student can estimate his level of knowledge after finishing the study.

Teaching/Learning Methods:

- Distance learning materials
- Virtual lectures
- E-books and scientific articles
- Tests
- Case-study
- Individual Homework
- Presentation (reports)
- Workshop
- Teamwork

A mixture of all above mentioned methods are used to address all competencies.
Competence Assessment: Written Exam - 30%

- Workshops - 70%

M08 Life Cycle Thinking and Sustainable Management

Module owner: Jose Ramon Otegi (UPV/EHU)
Module owners' email address: joserra.otegi@ehu.eus
Date of publishing: 30/11/2021

Short overview of module:

The module starts with an introduction to the reasons for discussing about sustainability. Climate change and materials scarcity are some of the problems already affecting the economy and the wellbeing.

The design phase of new products and processes is affected by material scarcity - current and foreseen - and should also consider the impact that those products will have on climate change. Furthermore, the design phase should not be considered the starting phase of a lineal process, but as a entry point for a circular one. Cradle to Grave linear paradigm has already been converted to a circular Cradle to Cradle one. In March 2020 the European Union adopted the Circular Economy Action Plan; another institutional effort to create growth while reducing the pressure on resources.

Engineers and project managers need tools to address these new challenges. Among them, Life Cycle Analysis and Ecodesign shine with their own light.

In this module both tools will be presented and embedded into the circular economy design - production - recovery process.

The module is intended to be developed by autonomous students jointly developing knowledge with the aid of online materials, teachers' guide and peers collaboration.

Overall Learning Outcome: Please describe here the general learning outcome of the module in 4-5 lines (key topics, "philosophy" of the module, overall competence gain).

At the end of the course the student will be able to understand the importance of considering the triple bottom line - People, Planet and Profit - in the management of their projects. The student will be able to apply tools Ecodesign and Life Cycle Thinking tools.

Target Group:

Bachelors on engineering, project management, management, economists.

Competences & Learning Outcomes:

The student will be able to:

- Recognize the importance of the sustainability and circular economy in the development of products and processes.
- Apply tools and techniques (ecodesign, Life Cycle thinking) to design product and processes taking into consideration the Triple Bottom Line.

- Combine his/her knowledge/skills/competencies with those of others to design sustainable process and products.
- Evaluate the work of others in the introduction of sustainability principles into product and process design.

Main topics of the module as bullet points:

What is Sustainability?

- Sustainability definition.
- What are the drivers behind our increasing materials and energy consumption?
- The Triple Bottom Line. Sustainable Development Objectives. Circular Economy. Company Reporting Initiatives
- The product life cycle: Global view

How can we assess the impact of a product in more detail: LCA

- Product life cycle: contextualization and concept
- Life cycle analysis: methodology and tools for calculation

Minimizing impact of a new product ecodesign

- Basic principles and implications of ecodesign.
- Ecodesign regulations and technical specifications.
- Ecodesign Methodology.
- Ecodesign and company.

Towards a circular economy.

- Goals and definition of circularity. Product sharing. Product lifetime extension. Reuse and refurbish. Recycling

Course structure:

The module is organized around individual and team activities. The optimum size of the Group is 30 with 6 teams of five people each.

- ***Phase 1*:**

  In a first phase, the professor will lecture on the basic concepts of the module. Lectures will happen online. Professors will describe the assignments.

- ***Phase 2*:**

  In a second phase, students will perform individual knowledge acquisition tasks, with a specific orientation to the assignments. This stage could happen simultaneously with phases three and four.

- ***Phase 3***:

  Phases three and four will run in parallel, with students developing the assignments.

- ***Phase 4***:

  Along these, tutorials will be offered and organized. A minimum time for student and team has to be dedicated to tutorials.

- ***Phase 5***:

  In Phase five, the teams will present their results, both as a written report and orally. Students will have to deliver a review of the work of other students.

Competence Assessment:

FORM of Assessment	%	REMARK
Written exam	20	Based on theory classes
Individual assignment	30	Based on Report provided by Individual work of each student on a specified topic
Team assignment	40	Based on Writen Report of team work of a group of students
Peer review	10	Based on peer review of other's team oral presentation or reports

M09 Developing Digital Business Ecosystems

Module owner: AzUAC, contact person Kanan Hasanov

Module owner's email address: kananhasanovv@gmail.com

Date of publishing: 2021/11/07

Short overview of module:

Throughout the modern industrial era, industries have generally been organized as linear value chains. This gave birth to the vertically integrated organization, which was organized in such a way in order to control the entire value chain and achieve economies of scale, which in turn would create a significant competitive advantage. As digital technologies continue gaining adoption, they start enabling new ways of organizing how value is created. This transition means moving from value chains to digital ecosystems. This is giving way to new industry giants, which rely on the strength of their digital ecosystems to attain market dominance. However, there is still limited knowledge of digital ecosystems: how they are created, how they work and, importantly, how organizations beyond digital giants can approach digital ecosystems.

Importantly though, an ecosystem is more than a set of partnerships. Since it is a network of loose contributors who interact closely to create mutual value, there is necessarily an atmosphere of interdependency among partners in the ecosystem. This means that all partners share the same interest and that individual partners will only be successful if the ecosystem succeeds. As such, business and operating models need to be adapted to the new paradigm.

This module will enable you to understand how ecosystems are changing the fundamentals of the business world and introduces a common language, a way of thinking and a methodology to help you address the challenges and opportunities in this space.

Overall Learning Outcome:

At the end of the course the student will be able to understand the importance of considering the triple bottom line of Enhanced quality of life - Economic, Social, and Environmental in the DBE. The student will become familiar with the Digital Business Ecosystem (DBE) basis business and digital ecosystem, principles of DBE; social-economical view at DBE and Information-communication technology (ICT) view at DBE the triple bottom line of DBE

- Familiarity with the types of digital platforms
- Familiarity with the main theories explaining the functioning of platforms

- Simulation of ecosystem development around the platform
- Simulation of ecosystem development around the platform (system dynamics)
- Introducing business models using digital platforms
- Introduction to digital platform management
- Ecosystem topology around digital platforms

- Innovation around digital platforms

- The future of digital platforms
- Technical Competence: know and use DBE concepts for analyzing and building digital business environment for small and medium enterprises.
- Professional Competence: manage process of developing the digital business environment.
- Global Competence: take into account cultural diversity, social differences, involvedness of participants, individual features during developing DBE.

Target Groups:

The target groups are:

- Students and workers — to be up-skilled/re-skilled throughout their career;
- Students of MSc programs in Computer Science, IT, Project management, Business Administration, Software Development, Digital Transformation.
- Education and training providers;
- Industrial employers and social partners — specific concepts/technologies introduced by Industry 4.0;

- Small Medium Enterprises — Continuous learning and on-the-job training are necessary to develop the new specific technological skills required and promote of highly specialized knowledge transfer in company
- Policymakers at national, regional and international levels — to examine key issues of the transformation of real economy into digital economy on both, macro- and micro- levels, and to evaluate of the digital economy's potential for social impact, and developing digital business ecosystem

Course structure:

1. **Core course (4 ECTs)**

   Digital Business Ecosystems (DBE) basis.

   - System theory and cybernetics
   - Biological science and DBE
   - Social science and DBE
   - Evolutionary and self-organizing systems
   - Structural coupling between business and digital ecosystem
   - Structural principles of DBE
   - Case study analyzing

   Social-economical view at DBE

   - Business networks, industry clusters
   - Governance in DBEs
   - Business processes, business models and value chains
   - Cost-benefit analysis and DBE
   - DBE collaborative communities
   - Innovation, competition and dynamics in business ecosystems

- Trust among enterprises (SME) in DBE
- Case study analyzing

Information-communication technology (ICT) view at DBE

- Digital Ecosystem technology and distributed nature of information
- Digital Ecosystem architecture, topology. ICT architectures and tools for DBEs
- Digital Ecosystem services
- Social network simulation and self-organization
- Information supply chain
- Efficiency and effectivity for DBEs
- Case study analyzing

Elective courses (2 ECTs each)

Formation of regional innovative ecosystems

- The essence of the basic categories of innovation development
- Architectonics of the National Innovation System
- Commercialization of innovations in the context of capitalization of human potential
- Innovative ecosystems: essence and methodological principles of formation
- New Paradigm of Regional Innovation Policy
- Efficiency of regional innovative ecosystems: Best practices

Regional innovative clusters as a model of regional innovative ecosystems

- Cluster value as an effective form of development of regions
- Structure of interaction of elements of the regional innovation cluster
- Clustering Policy of the European Union
- Models of creation of innovative clusters in the regions

Mechanisms of formation of regional innovative ecosystems

- Conceptual principles of formation of innovative ecosystems in the region
- Institutional mechanisms for the formation of a regional innovation ecosystem
- Development of industrial parks as submodules of regional innovation ecosystem of regions
- Formation of technological environments
- Modern innovation-technological hubs

Teaching/Learning Methods:

- lectures introducing concepts, methods and tools, own literature reading
- group work in the case study project to practice concepts and methods, to develop skills and to work on case studies
- presentations to communicate results and do a scientific discussion and reflection

- Webinars, knowledge clips, e-learning
- Blended learning: flipped classrooms.

Competence Assessment:

- Assignment, workshop participation, case project preparation and evaluation, written/ oral exam

Want to become a member?

How to be a team member?

Please use the following email template to send it to the module owner, if you would like to be part of this community and participate in further development of this module together with other professional members!

****

Dear [module owner name],

Hope you are doing well.

Kindly ask you to approve my participation in the development of this module, since I am experienced/professional in [……..] and would like to take an opportunity and participate in further development of this [……..] module. Please add my email address […….] into the community database.

I have read the short overview of this module and think that I will be helpful in developing of [please choose one of these options and remove others:

1. **overall learning outcomes,**
2. **target group analysis,**
3. **Competences & Learning Outcomes**
4. **Module Content**
5. **Course structure**
6. **Teaching & Learning Activity Plan**
7. **Teaching & Learning Resources**
8. **Tailoring & Educational Tracks**
9. **Assessment Methods**
10. **Curricula Integration**
11. **Quality Assurance – Evaluation**
12. **Syllabus**
13. **Adding references with justification**
14. **Scientific focus]**

If I can be of assistance, please let me know.
Best regards,
XXXXXXX

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Thanks in advance!

Teams overview

Module name	Team Leader/Product Owner	Additional partners (contact person)				
M1 Data Analytics for Work (DA4W)	Sergey Subbotin subbotin.csit@gmail.com P01 – NU-ZP	Natalia Yehorchenkova realnata@ukr.net P05 - KNUCA	Khrystyna Lipyanina-Goncharenko xrustya.com@gmail.com Taras Lendyuk tl@wunu.edu.ua P06 – WUNU	ismayil.sadidov@ascca.edu.az P07 – ASCCA	Nazila Ragimovaragimova.n.a@gmail.com Yashar Hajiyev yasharhm@gmail.com P08 – ASOIU	
M3 Industry 4.0 (I4.0)	Peter Arras, peter.arras@kuleuven.be email P03 – KU Leuven	Galyna Tabunshchyk galina.tabunshchik@gmail.com Anzhelika Parkhomenko parhom@zntu.edu.ua P01 - NU-ZP	Nerea Toledo nerea.toledo@ehu.eus P04 – UPV/EHU	Oleksandr Osolinskyi osolinskiy.oleksandr@gmail.com P06 - WUNU	elvin.mejidov@ascca.edu.az P07 – ASCCA	P08 – ASOIU
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Module name	Team Leader/Product Owner	Additional partners (contact person)				
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