Jiří Šedivý, Chief Executive of the European Defence Agency (EDA)
Improving Human Performance & Effectiveness in Health Professions Education
iEXCEL in the Davis Global Center - University of Nebraska Medical Center in Omaha, NE

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Preparation of a Vibrant and Ready Digital Workforce
As UNMC was seeking staff to work in a large highly technical and creative training and research facility, a critical shortage of a well-prepared, digital workforce became very apparent. The intent was to recruit and hire a team who, with combined skill sets, would create highly accurate 3D and holographic digital assets. With a likelihood that the global workforce will not return to a "pre-COVID-19 world", this gap in available digital and technological talent is predicted to become even more significant. Additionally, as the Metaverse evolves and technologies continue to advance, these digital skills gaps will be even more evident. A shortage of mission critical skills has been described as the next potential global disruptor. This observation has been reinforced in discussions with industry, government, and military leaders.

Staying competitive requires employees who know how to collaborate in teams and leverage data and artificial intelligence in order to take a quantum leap into the future. To ensure engagement in real world preparation, and support companies in attracting and retaining the right workforce with the right skill sets, iEXCEL (Interprofessional, Experiential Center for Enduring Learning) at the University of Nebraska Medical Center (UNMC) in Omaha, Nebraska, has designed an iXR Academy Professional Certificate Program. This academy will focus upon preparing individuals with digital and creative skills that prepare them for entering a rapidly changing and digital world.

The iXR Innovation Academy at iEXCEL

iEXCEL is recognized as a transformative model for health care education, training and research. This advanced simulation training and research center incorporates a wide range of modelling, simulation and visualization technologies that require digital, technological and creative talent. The intent is to address the perceived shortfall of highly prepared workforce talent in 3D, Augmented Reality/Virtual Reality (AR/VR) and holographic content creation. Thus far, iEXCEL has offered two successful community training academies. Academy course participants will be prepared to function in rapidly changing and highly digital work environments.

In Fall 2022, the iEXCEL iXR Innovation Academy is offering a newly designed 10-month course resulting in a Professional Development Certificate. This innovative course will help participants build digital skills, whilst working with visualization and immersive technologies to create 3D and holographic content, including highly accurate digital twins. The overarching goal is to ensure participants can enter and/or function in the workplace effectively by bringing up-to-date digital, visual, and technologic skills.

This academy involves problem solving, critical thinking and teamwork, and includes engagement in meaningful experiential learning activities. Hands-on exercises and team projects with the experienced, interdisciplinary iEXCEL visualization team are core to this experience. Faculty instructors will comprise of world class subject matter experts who are leaders in their fields. This course includes a matrix of topics and competencies designed using a flexible approach, to meet the future workforce needs of the military, industry and government entities.

Eligible applicants for the iXR Innovation Academy include new college graduates who are preparing for advanced digital roles with military and/or industry collaborators, as well as individuals mid-career, who need or wish to expand digital and visualization skills.
Participant Entry Competencies:
• A willingness to build strong communication and presentation skills
• Adaptability and an enthusiasm for continuous learning
• Creativity, imagination, and drive
• Flexibility, curiosity, and the ability to embrace complex design problems
• Capacity to communicate and collaborate with developers and subject matter experts

iEXCEL Academy Intent: Acceleration of the Digital Work Force

• Organize, administer & provide state-of-the art, experiential learning that is highly relevant for the newly emerging workplace.
• Deliver cutting edge, digital, visual and experiential education & training that prepares participants to create 3D & AR/VR content for the emerging digital platforms.
• Provide a hybrid training model with some knowledge delivered virtually, but primarily via project-based experiential (hands-on/interactive) training in identified sectors.

The iEXCEL iXR Innovation Academy offers a 10-month professional development certificate granting course specifically focused on 3D, AR/VR interactive content development and creation.

iEXCEL iXR Innovation Academy
10-Month Program
Learning Phase (3 Months)
Participants will learn visualization development concepts from subject matter experts.

Project Phase (7 Months)
Participants will collaborate with iEXCEL on comprehensive (experiential) hands-on projects.

Academy Goals
Digital and Visualization Workforce training in the Academy will prepare for:
• New and future digital work force roles in 3D, AR/VR
• Content development & creation in Mixed or Extended Reality
• Experiential (Hands-on) Skill Development
• Problem solving, group discussion, mentoring, team effectiveness and working effectively
• Understanding of working in an agile environment

The iEXCEL iXR Innovation Academy ensures “essential skills” are built into the technical components of the curriculum throughout the training. At the completion of this course, participants will be able to think and operate holistically (look at the big picture within real context), relate across disciplines, work in interdisciplinary teams, and have acquired highly desired “soft skills” such as decision making, program management, presentation skills and problem solving abilities. This methodology, together with personal drive, will lead candidates to adapt, build strong communication and presentation skills, and produce an understanding of what it takes to work in an agile environment.

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www.unmc.edu/iexcel