Reimagining Education & Training for Healthcare Technology Management

Wednesday, April 19
2pm UTC | 10am NY

Register for free: https://rb.gy/lvdrmj

Now with LIVE translated captions
GCEA is excited to announce the addition of a new *live translation* feature that we believe *will bridge the language gap and enhance your video conferencing experience* through Global Clinical Engineering Alliance programs even further. As part of our commitment to delivering innovative and educational video communications training, we have incorporated a new captioning option that facilitates the ability of our members to elevate their understanding of the spoken content during GCEA education and meeting events, by simultaneously customizing captions in their preferred language.
Simply click on the Captions tab at the bottom of your screen and select the caption language you would like to read from the drop-down menu.

English, Arabic (Beta), Chinese (Traditional) (Beta), Chinese (Simplified) (Beta), Czech (Beta), Dutch, Estonian (Beta), Finnish (Beta), French (France), Hebrew (Beta), Hindi (Beta), Hungarian (Beta), German, Italian, Japanese (Beta), Korean (Beta), Polish (Beta), Portuguese, Spanish, Romanian (Beta), Russian, Turkish, Ukrainian and Vietnamese.
Reimagining HTM Education and Training

The role of XR and other Advanced Technologies
The College of Biomedical Equipment Technology (CBET) was founded in 2010. Originally designed as a vocational trade school serving students in central Texas, the College has grown significantly through the years and is now the largest producer of Biomedical Equipment Technicians in the United States.

“The College of Biomedical Equipment Technology provides innovative and relevant Healthcare Technology Management, Compliance, and Imaging education, training, and career services to prepare our students to meet the evolving needs of employers in the healthcare Industry.”

Dr. Richard Gonzales
President, College of Biomedical Equipment Technology

Matthew Bassuk
CEO, NVRT Labs

www.cbet.edu
Is education as we know it is hurdling toward extinction? A great upheaval?

**Yesterday**
Built on a rich foundation of trust and tradition

**Today**
Disruption and technology; highly competitive; accreditation; ROI

**Tomorrow**
Knowns and unknowns; many more options

**REVOLUTION NOT EVOLUTION**
We must adopt strategies to stay ahead of the curve in an Era of Chaotic Changes and Disruptive Forces.”
-David Espindola
The Exponential Era
Rapid Advancements in Technology

1988
Continuous illumination for 12-hours
Shock and Waterproof
Accuracy +/- 40 mils
Temperature range -50 to 150 F

2009
Secure, SAASM-based GPS receiver
Anti-Jamming & Spoofing
Handheld and Vehicle Integration
4 AA batteries provide 22-hours of operation

Lensatic Compass
The Pandemic permanently altered higher education, accelerating change, validating concepts, and transforming expectations.

- **Accelerated Change**: The transformation in education that was occurring accelerated
- **Validated Concepts**: Accelerated pace of change with regards to the demands of students/workforce
- **Massive Transformation**: Permanently altered the landscape, nearly 100% increase in Online Program Enrollment 2020-2021.
For the greater part of two centuries, higher education in the United States was dominated by traditional values and industrial era thinking, the United States is in the midst of profound transformation from an industrial-based economy to an increasingly interconnected knowledge economy.

**REJECTING TRADITION**

**Industrial-Based**  
Industry is the driving factor  
(geographically bound)

**Knowledge-Based**  
Technology is the driving factor  
(non-geographically bound)
CONVERGENCE COCKTAIL

**Megatrends**
- Environment, Economy,
- Digital Disruption, Societal
- Change, Hyper Connectivity,
- XR

**Point of Convergence**
- Meeting Industry Demands,
- high ROI training and
- education, pace with
technology

**Enabling Technologies**
- Artificial Intelligence,
- WEB 3.0, Metaverse,
- Blockchain, CHAT GPT,
- Quantum Computing

**New Products, Services,
and Markets**
Healthcare is local, but technology is global.

"Technology frequently produces surprises that no one predicts. But the biggest and most fantastical developments are often anticipated decades in advance."

"Metaverse is a persistent and interconnected network of 3D virtual worlds that will eventually serve as the gateway to most online experiences, and also underpin much of the physical world."

IMAGINE IF...
METAVERSE
The metaverse is the popular term used to describe what many expect to be the next significant paradigm for how we use digital technologies and networks to interact and collaborate with others and have virtual experiences of all kinds.

It’s not a single technology or device, and it’s not a service of any one company. It’s the convergence of several separate technologies, all of which are quickly maturing for mainstream use. Together, those technologies can create the experience of an immersive, three-dimensional environment in which users interact with their surroundings and other users as if they are in a shared space.

-Deloitte Primer 2022
Extended Reality (XR) encompasses Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR).

**Virtual Reality**
...simulated experience employing near-eye displays to create an immersive feel of a virtual world

**Augmented Reality**
...interactive experiences combining the real world and computer-generated content

**Mixed Reality**
...the merging of a real-world environment and a computer-generated one

Click the numbers to see examples
Pervasive and enabling technology

- Reduced costs for students
- Future Proofing
- Obliterating Boundaries
Virtual Reality

WHAT BIG DATA INDICATES

- Greater Retention after 1-year: 80%
- Improved Performance: 230%
- Less likely to make a mistake: 600%
- Faster Completion Rates: 29%

https://hbr.org/2019/10/research-how-virtual-reality-can-help-train-surgeons
https://trainingindustry.com/articles/learning-technologies/3-ways-virtual-reality-training-is-producing-better-outcomes/
VR PILOT HTM
PROOF OF CONCEPT

100% reported increase confidence

75% significantly increased confidence

100% would recommend VR training

Click to learn more

Click to see VR module:
I KNOW KUNGFU

BMET Certificate
• Medical Terminology, A&P
• Mathematics for Electronics
• Electronics I
• Biomedical Equipment I
• Networking Fundamentals I
• Troubleshooting Theory and Methodology
• Test, Measurement, and Diagnostic Equipment (TMDE)
• Professional Career Development

BMET AAS Degree
• Business Professional Communications
• Ethics in Healthcare Technology Management
• Technical Writing for Healthcare
• Compliance and Safety
• Healthcare Technology Management I
• Networking Fundamentals II
• Biomedical Equipment II
• Electronics II
• Infection Control
• Basic X-Ray
• Introduction to Clinical Asset Management Systems
• HTM Applications
Well scoped interaction
- Operator Use
- PM
- CM
- troubleshooting

Teardown documentation

High Fidelity 3D Models

Procedural Storyboard

Virtual Environment

Unity 3D Interaction development using SDK

QA & Deployment

OUR PROCESS
OUR PROCESS
Other Healthcare XR Projects:

Click each image to learn more:
Experience the Future of Training.

cbet.edu  nvrtrlabs.com
A list of additional topics and dates for next webinars will be soon announced through email campaign and on our website www.GlobalCEA.org

THANK YOU for your participation