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| Light, Dark, Color and Human Health       | Dean Brockob, USAI LIGHTING      | Architectural Lighting: Light is used to highlight the aesthetics of a space with care given to visual comfort and visual performance needs. Light also affects human health. It is a stimulus for regulating circadian rhythms, behavior, and other health functions. This presentation highlights the growing body of research connecting light, the receptors in our eye (the non-visual system) to many health functions. These human health aspects include circadian regulation, melatonin production, and neurotransmitter functions in the brain. As lighting technology improves (with color temperature control, for example) and as the understanding of light and health improves, this will have a profound effect on architectural lighting design. This course will show recent beta-test lighting projects promoting “human centric” lighting, as well as recent lighting projects where color control was used for promoting health, behavior, or productivity. | • Participants will learn the basics of the visual system as well as important metrics such as color temperature and color rendering index.  
• Participants will understand the amazing new research showing how light receptors in the eye signal non-visual parts of the brain affecting human health.  
• Participants will identify the many physiological effects in the brain caused by both light and dark.  
• Participants will be able to connect these light and health concepts to architectural lighting and new design approaches.  
• Describe the importance of daylighting and lighting controls for improved energy efficiency in commercial buildings  
• Understand and describe the challenges, goals and principles of effective daylighting design  
• Understand and describe the pros and cons of the common side-daylighting design strategies  
• Understand and explain the performance and cost of the common side-daylighting design strategies  
• Access selected information resources on effective daylighting design  
• Describe the LED characteristics that challenge traditional lighting concepts  
• Discuss the new advantages of LED lighting, including, energy efficiency, versatility, controls, colors and design and low maintenance  
• Describe the wide range of applications for LED lighting  
• Understand how to select LED lighting for your projects and describe best practices  

| Comparative Evaluation of Side-Daylighting Strategies | Michael Holtz, Lightlouver | Daylighting is the purposeful use of sunlight to meet the illumination requirements of an architectural space. Side lighting strategies are discussed to help a designer meet these requirements. | • Describe the importance of daylighting and lighting controls for improved energy efficiency in commercial buildings  
• Understand and describe the challenges, goals and principles of effective daylighting design  
• Understand and describe the pros and cons of the common side-daylighting design strategies  
• Understand and explain the performance and cost of the common side-daylighting design strategies  
• Access selected information resources on effective daylighting design  

| How LED’s have Changed the way we work with Light | Pete Neal, Regional Sales Manager Midwest - Lumenpulse Lighting | This course will explore what makes LEDs unlike traditional light sources, specifically in regards to their micro optics, miniature size, light quality, precise controls, versatility and long lifespan. LEDs are in fact so different, the technology has opened up entirely new approaches to using light for architectural lighting, both inside and out. Today, LEDs can be used for almost all architectural lighting. This course will examine common LED lighting applications and introduce a variety of installations. The current industry is only scratching the surface of what LEDs can do and building professional must rethink how to approach lighting a space. | • Describe the LED characteristics that challenge traditional lighting concepts  
• Discuss the new advantages of LED lighting, including, energy efficiency, versatility, controls, colors and design and low maintenance  
• Describe the wide range of applications for LED lighting  
• Understand how to select LED lighting for your projects and describe best practices |