

# Designing for the Digital Age

# #home #work #play

#  8 CE Credits

with Lynne Wilkinson

 Indicates Barrier-Free Design Content (1 Hour Total) 

 Indicates Sustainable Design Content (1 Hour Total) 

Rest of Content Addresses Health, Safety and/or Welfare (HSW) Issues (6 Hours Total)

Break Time - No Credits Claimed

# OUTLINE

**0:00-0:54 Technology Enabling Digital Life at Home, Work, and Play**

* Introduction to how these technologies evolved (8 minutes of lecture time)
* The Internet of Things (IoT) (4 minutes of lecture time)
	+ What is IoT (4 minutes of lecture time)
	+ Four components of IoT (5 minutes of lecture time)
		- Sensors/Devices
		- Connectivity
		- Data Processing
		- User Interface
* 5G: Speeding the Future (6 minutes of lecture time)
	+ Characteristics of 5G (10 minutes of lecture time)
		- Broadband
		- Reliable speed
		- Real Time
		- Adaptive
		- Energy efficient
		- Interoperability
* Applying IoT and 5G (4 minutes of lecture time)
* Security Issues (6 minutes of lecture time)
* The New Realities (7 minutes of lecture time)
	+ Virtual
	+ Augmented
	+ Mixed

**0:54-2:15 Designing #CITIES for the Digital Age**

* Mega Cities (3 minutes of lecture time)
* Defining urban areas and the urban migration (3 minutes of lecture time)
* Smart Cities (21 minutes)
	+ Smart systems  (4 minutes of lecture time)
	+ Smart Energy  (4 minutes of lecture time)
	+ Smart Water  (4 minutes of lecture time)
	+ Transportation  (4 minutes of lecture time)
	+ Municipal Functions (2 minutes of lecture time)
	+ Solar power  (3 minutes of lecture time)
* Case Study: Pena Station NEXT (21 minutes)
	+ What is it? (3 minutes of lecture time)
	+ Fujisawa SST (3 minutes of lecture time)
	+ Pena plans  (3 minutes of lecture time)
	+ Smart Bus Shelters and public transportation  (3 minutes of lecture time)
	+ Smart meters and AoT smart street lights  (3 minutes of lecture time)
	+ V2E technology  (3 minutes of lecture time)
	+ Autonomous Vehicles (electric)  (3 minutes of lecture time)
* New Urbanism (18 minutes)
	+ Suburbs of the past (6 minutes of lecture time)
	+ The New Hubs of urbanism
		- Centralized mass transportation (4 minutes of lecture time)
		- Collective solar and rain harvesting (4 minutes of lecture time)
		- Resilient home construction (4 minutes of lecture time)
* Break (15 minutes) **-- No Credits Claimed --**

**2:15-5:00 Designing #HOME for the Digital Age**

* The Smart House (20 minutes)
	+ IoT connectedness and data (7 minutes of lecture time)
	+ The IoT Baby (7 minutes of lecture time)
	+ Connected Daily Routines (6 minutes of lecture time)
* The Smart House and new approach to Health (20 minutes)
	+ IoT remote healthcare  (7 minutes of lecture time)
	+ Future Hospital – your house  (6 minutes of lecture time)
	+ Seeing the doctor from home **** (7 minutes of lecture time)
* Technology to Simplify (31 minutes)
	+ Mirrors, Cameras and Clothes (5 minutes of lecture time)
	+ Integrated wireless charging and Smart Shelves (5 minutes of lecture time)
	+ Electric car charging stations  (5 minutes of lecture time)
	+ IoT Smart Safety – Locks, cameras, lights  (5 minutes of lecture time)
	+ AR in daily life (4 minutes of lecture time)
	+ Automated and Integrated chores  (7 minutes of lecture time)
* Virtual Personal Assistants (10 minutes)
	+ Artificial Intelligence  (4 minutes of lecture time)
	+ Gesture Control  (3 minutes of lecture time)
	+ Robots  (3 minutes of lecture time)
* Switchable Window Film (11 minutes)
	+ How does it work and reducing solar heat gain (8 minutes of lecture time)
	+ Really Smart windows (3 minutes of lecture time)
* The connected Kitchen (19 minutes)
	+ Induction tables (6 minutes of lecture time)
	+ 3D food printing (6 minutes of lecture time)
	+ Refrigerators as the technology hub (4 minutes of lecture time)
	+ New smart appliance innovations (3 minutes of lecture time)
* IoT Morph Art (3 minutes of lecture time)
* Connected Furnishings (3 minutes of lecture time)
* Entertainment Technology (3 minutes of lecture time)
* Break (45 minutes) **-- No Credits Claimed --**

**5:00-7:15 Designing #WORK Environments for the Digital Age**

* Sustainable Buildings (8 minutes of lecture time)
* Smart Buildings (15 minutes)
	+ What are they? (5 minutes of lecture time)
	+ What are the main elements of smart buildings (5 minutes of lecture time)
	+ IoT connected functions – maintenance, cleaning, security (5 minutes of lecture time)
* Office Buildings (37 minutes)
	+ Engines of change (7 minutes of lecture time)
	+ The Edge (12 minutes of lecture time)
	+ Streamlining functions (5 minutes of lecture time)
	+ Renovating existing (8 minutes of lecture time)
	+ The new conference room (5 minutes of lecture time)
* Schools (26 minutes)
	+ The new school (4 minutes of lecture time)
	+ Interactive classroom technology (5 minutes of lecture time)
	+ Re-thinking the physical layout (5 minutes of lecture time)
	+ Partnering with the real world (4 minutes of lecture time)
	+ Innovations at Universities (8 minutes of lecture time)
* Hospitals (27 minutes)
	+ IoT changing the industry **** (4 minutes of lecture time)
	+ Remote monitoring **** (4 minutes of lecture time)
	+ Efficient and useful spaces **** (4 minutes of lecture time)
	+ Personalization **** (4 minutes of lecture time)
	+ Watson **** (6 minutes of lecture time)
	+ Telesurgery and Augmented Reality **** (5 minutes of lecture time)
* Factories (7 minutes)
	+ IoT redesigning the process (2 minutes of lecture time)
	+ Robots (2 minutes of lecture time)
	+ Augmented reality on the job (3 minutes of lecture time)
	+ Break (15 minutes) **-- No Credits Claimed --**

**7:15-9:15 Designing #PLAY Environments for the Digital Age**

* Retail Spaces (30 minutes)
	+ The new grocery store (8 minutes of lecture time)
	+ Retail Tools – magic mirrors (8 minutes of lecture time)
	+ Checkouts, smart shelves and robots (9 minutes of lecture time)
	+ Instant IoT VIP (5 minutes of lecture time)
* Restaurants, Cafes, and Bars (18 minutes)
	+ Booming markets (6 minutes of lecture time)
	+ New venues (6 minutes of lecture time)
	+ Robots, robots, robots (6 minutes of lecture time)
* Fitness Facilities (10 minutes)
	+ Gyms (5 minutes of lecture time)
	+ Smart Parks (5 minutes of lecture time)
* Gaming Spaces (2 minutes) (2 minutes of lecture time)
* Home Reality (5 minutes of lecture time)
* Theaters (6 minutes of lecture time)
* Stadiums and Arenas (6 minutes of lecture time)
* Museums (4 minutes of lecture time)
* Transportation (14 minutes)
	+ Airports (5 minutes of lecture time)
	+ Planes (5 minutes of lecture time)
	+ Trains (4 minutes of lecture time)
* Hospitality (25 minutes)
	+ The end of hotel check-in desks (3 minutes of lecture time)
	+ Facial recognition (3 minutes of lecture time)
	+ VR tours for room selection (2 minutes of lecture time)
	+ Robots (4 minutes of lecture time)
	+ The new guest room (4 minutes of lecture time)
	+ Dynamic spaces (2 minutes of lecture time)
	+ Re-purposing public spaces (4 minutes of lecture time)
	+ Room service (3 minutes of lecture time)

 **Total: 480 minutes of lecture time**

 **8 CE credits**