

# Designing for the Digital Age

# #home #work #play

# 8 CE Credits

with Lynne Wilkinson

accessibility Indicates Barrier-Free Design Content (1 Hour Total) accessibility

greendesign Indicates Sustainable Design Content (1 Hour Total) greendesign

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 greendesign (4 minutes of lecture time)
  + Smart Energy greendesign (4 minutes of lecture time)
  + Smart Water greendesign (4 minutes of lecture time)
  + Transportation greendesign (4 minutes of lecture time)
  + Municipal Functionsgreendesign (2 minutes of lecture time)
  + Solar power greendesign (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 greendesign (3 minutes of lecture time)
  + Smart Bus Shelters and public transportation greendesign (3 minutes of lecture time)
  + Smart meters and AoT smart street lights greendesign (3 minutes of lecture time)
  + V2E technology greendesign (3 minutes of lecture time)
  + Autonomous Vehicles (electric) greendesign (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 transportationgreendesign (4 minutes of lecture time)
    - Collective solar and rain harvestinggreendesign (4 minutes of lecture time)
    - Resilient home constructiongreendesign (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 accessibility (7 minutes of lecture time)
  + Future Hospital – your house accessibility (6 minutes of lecture time)
  + Seeing the doctor from home **accessibility** (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 greendesign (5 minutes of lecture time)
  + IoT Smart Safety – Locks, cameras, lights accessibility (5 minutes of lecture time)
  + AR in daily life (4 minutes of lecture time)
  + Automated and Integrated chores accessibility (7 minutes of lecture time)
* Virtual Personal Assistants (10 minutes)
  + Artificial Intelligence accessibility (4 minutes of lecture time)
  + Gesture Control accessibility (3 minutes of lecture time)
  + Robots accessibility (3 minutes of lecture time)
* Switchable Window Film (11 minutes)
  + How does it work and reducing solar heat gaingreendesign (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 Buildingsgreendesign (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 Edgegreendesign (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 **accessibility** (4 minutes of lecture time)
  + Remote monitoring **accessibility** (4 minutes of lecture time)
  + Efficient and useful spaces **accessibility** (4 minutes of lecture time)
  + Personalization **accessibility** (4 minutes of lecture time)
  + Watson **accessibility** (6 minutes of lecture time)
  + Telesurgery and Augmented Reality **accessibility** (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**