

## SUPPLEMENTAL MATERIALS

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# Computing in AEC Education: Hindsight, Insight, and Foresight

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### **Survey Questions**

#### **ABOUT YOUR TEACHING**

1. At what institution are you currently employed?
2. In which country is this institution located? (dropdown)
3. What is your title / role?
  - a. Professor
  - b. Associate Professor
  - c. Assistant Professor
  - d. Lecturer
  - e. Administrator
  - f. Other (please enter below)
4. What level of students do you teach at your institution? (choose all that apply)
  - a. Undergraduates
  - b. Graduate Students
  - c. Others (please enter below)
5. In which program or academic area do you teach? (choose all that apply)
  - a. Architecture
  - b. Engineering
  - c. Construction
  - d. Computer Science
  - e. Others (please enter below)

#### **COMPUTING LITERACIES & TECHNOLOGIES**

6. Please indicate whether these advanced computing literacies are relevant to the success of your students in the future workforce: (choose all that apply)
  - a. Programming
  - b. AI/Machine Learning/Optimization
  - c. Generative Design

- d. Data Analytics/Database Design/Data Structure
  - e. Network/Cloud Computing Services
  - f. Human Computer Interaction
  - g. Others (please enter below)
7. Which of the following programming languages are used by students in their class or project work? And which languages are covered within the program curriculum (for example, taught in a course)? (choose all that apply) (could check box for 'Used by Students' or 'Covered Within Program Curriculum (Taught in a Course)' for each option)
- a. MATLAB
  - b. Grasshopper / Dynamo
  - c. Python
  - d. Visual Basic
  - e. Java, JavaScript
  - f. C++, C#, or C
  - g. Others (please enter below)
8. Which applications of computing technologies are covered in your program curriculum? (choose all that apply)
- a. BIM
  - b. Parametric Design
  - c. Computer-Aided Drawing / Design
  - d. Visualization / Augmented Reality / Virtual Reality / Mixed Reality / Extended Reality
  - e. Analysis / Simulation / Engineering Calculations
  - f. Algorithms / Automations
  - g. Data Management / Decision Support
  - h. Sensing / 3D Scanning / Unmanned Aerial Vehicles (Drones)
  - i. Others (please enter below)

**VISION | What will students need to do?**

9. Imagine the professions in which your students will be seeking careers 5 to 10 years into the future. Given the trajectory of technology, what tasks do you envision your students doing in the near future (5 to 10 years) that are generally not required to do today? *(open response)*

**CURRICULUM | What do students need to learn?**

10. What changes to undergraduate and graduate curriculums should faculty make now to better prepare students for the tasks you listed above? *(open response)*

**BARRIERS**

11. Which of the following are barriers to incorporating computing into your curriculum? *(can check multiple)*
- a. No Room in Curriculum
  - b. Insufficient Student Demand
  - c. Not Considered Important / Critical
  - d. Not an Accreditation Criterion
  - e. Inertial Resistance
  - f. Inadequate Funding
  - g. Lack of Teaching Assistant Support
  - h. Lack of Needed Infrastructure
  - i. Inadequate Resources to Make the Curriculum Change
  - j. Any Other Barriers (please list examples below)

**SUPPORT | What do faculty / departments / institutions need to support this?**

12. What types of support are needed to enable/empower the faculty or the department to successfully make the near-term changes that faculty should implement in the curriculum?  
Please list as many needs as you envision. *(open response)*