

## A4LE Advanced Academy Module 5: High Performance School Design

Instructor: Aaron Jobson

**Abstract:** Research has shown that the design of school facilities has a significant effect on the health wellness and achievement of the students and teachers that live in them. This module will focus on understanding this research and incorporating it into the school design process. We will cover how to select a team, what to expect at each phase of the project and how to manage and align expectations. We will also review evidence-based approaches to designing high performance school facilities and how to incorporate them into all projects.

**Learning Objectives:** At the end of this module students will...

- Understand the impacts of facility design and quality on student learning
- Know how to select and structure an evidence-based, integrated design process and team
- Be familiar with Sustainable design requirements, rating systems and approaches
- Understand key design considerations for high performance learning environments such as daylighting, acoustics and indoor air quality
- Be able to implement design strategies for student and teacher wellness
- Know how to develop, align and communicate the project schedule, budget and requirements

### Weekly Outline

#### Week 1: Structuring a High-Performance Design Process

- Topics to be addressed:
  - Review research on how design impacts learning
  - Discuss an evidence-based and integrated approach to achieve these results
  - Review the Architectural Design process and expected outcomes at each stage
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#### Week 2: Establishing project Criteria and Team

- Topics to be addressed:
  - Defining clear project requirements through the Owner's Project Requirements document
  - Establishing Project Budget and Schedule
  - Selecting a Design Team
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#### Week 3: Sustainable Design concepts and approaches

- Topics to be addressed:

- Review Sustainability Criteria and Rating Systems
- Energy efficiency and generation – Zero Net Energy
- Building De-carbonization
- Water efficiency and treatment
- Site selection and design

Week 4: High Performance Schools design concepts - 1

- Topics to be addressed:
  - Daylighting
  - Electric Lighting
  - Indoor Air Quality and Ventilation

Week 5: High Performance Schools design concepts - 2

- Topics to be addressed:
  - Acoustics
  - Thermal comfort
  - Wellness: Movement, Connection to Nature, Ownership, culturally responsive design

Week 6: Additional design considerations and Post Occupancy Evaluation

- Topics to be addressed
  - Maintenance and Operations
  - Campus Safety and Security
  - Expectations for Community Engagement during design
  - Post-Occupancy Evaluation