PURDUE UNIVERSITY

SCHOOL OF CIVIL ENGINEERING

ARCHITECTURAL ENGINEERING PROGRAM

The Architectural Engineering emphasis area is focused on integrated design and operation of buildings.
It includes all engineering and science aspects related to the built environment - indoor environmental quality, mechanical systems (HVAC), electrical systems, lighting and daylighting, building envelopes, controls, renewable energy systems, - and is therefore related to **multi-disciplinary research and education.**
With increasing concern about climate change and energy, Architectural Engineers have a critical task in the following decades. In Civil Engineering's Architectural Engineering emphasis area, students have the opportunity to study the integration of different building systems and to learn how to design for **sustainability, energy efficiency** and **human health**.

The Architectural Engineering Program offers a wide variety of courses at the undergraduate and graduate level, related to the built environment. The faculty members are dedicated to research and teaching and provide an interdisciplinary learning environment in collaboration with Herrick Labs of Mechanical Engineering. Our experimental facilities include **full-scale setups at the Bowen lab** and the new Center for High Performance Buildings at **Herrick Labs**, with the unique "**Living Laboratories**" to study reconfigurable building and control systems, human behavior and interactions.

We encourage interested students to apply for M.Eng., MSCE and Ph.D. studies.

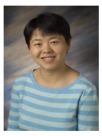
ARCHITECTURAL ENGINEERING COURSES :

- CE 311: Architectural Engineering
- CE 413: Building Envelope Design and Thermal Loads
- CE 414: Building Mechanical and Electrical System Design
- CE 457: Design of Air Pollution Control Systems
- CE 513: Lighting and Daylighting in Buildings
- CE 514: Building Controls
- CE 515: Building Energy Audits
- CE 597A: Sustainable Building Design and Operation
- CE 597B: Indoor Air Quality
- CE 597C: Architecture and BIM for High Performance Buildings
- CE 697: Building Thermal Analysis
- CE 697: Airflow Modeling in the Built Environment
- ME 505: Intermediate Heat Transfer
- ME 502: Indoor Environment
- ME 513: Engineering Acoustics
- ME 518: Analysis of Thermal Systems
- ME 597: Sustainable Energy Options

RESEARCH AREAS - ARCHITECTURAL ENGINEERING:

- HVAC Components, Systems Design and Operation
- Indoor Air Quality, Aerosols and Human Exposure
- Airflow, Ventilation and Filtration
- Building Envelopes and Facades
- Solar Cooling and Heating Systems for Buildings
- Building Performance Monitoring
- Building Simulation and Energy Modeling
- Building Thermal Systems & Controls
- Lighting and Daylighting Systems and Controls
- Indoor Environmental Comfort
- Intelligent Building Systems
- Refrigeration Systems
- Combined Heat and Power Systems
- Air Pollution Management and Control
- Building-Integrated Photovoltaic Systems
- Occupant Behavior and Interaction with Building Systems
- Environmental Performance of Buildings

FACULTY MEMBERS – ARCHITECTURAL ENGINEERING:


Ming Qu
mqu@purdue.edu


Travis Horton
wthorton@purdue.edu


Brandon Boor
bboor@purdue.edu


Robert Jacko
jacko@purdue.edu


Panagiota Karava
pkarava@purdue.edu

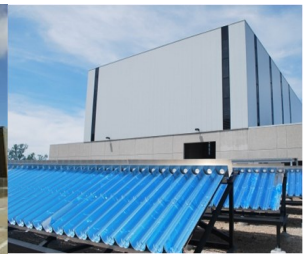

Thanos Tzempelikos
ttzempel@purdue.edu


James Braun
jbraun@purdue.edu


Nusrat Jung
nusratj@purdue.edu







https://engineering.purdue.edu/CE/Academics/Groups/Architectural