

# CERTIFICATE IN ARCHITECTURAL ENGINEERING

The Certificate in Architectural Engineering is a preparatory coursework-only non-degree program oriented toward students who wish to gain introductory knowledge on the design, construction, and operation of buildings and their systems, including heating, ventilation, and air-conditioning (HVAC) systems, facades and enclosures, and electrical, lighting, fire protection, and plumbing systems. The degree program is intended for preparation for advanced engineering practice rooted in the principles of building science, indoor environmental quality, energy efficiency, and sustainability. The program is designed to be taken standalone

for gaining introductory knowledge or in preparation for gaining advanced knowledge in the Master of Engineering in Architectural Engineering program.

Students with a variety of academic backgrounds are eligible to apply for the program, including those with undergraduate degrees in engineering disciplines (e.g., architectural, civil, mechanical, or environmental engineering) and non-engineering disciplines (e.g., architecture, construction management, or environmental design).

## Curriculum

Code	Title	Credit Hours
<b>Required Courses</b>		<b>(3)</b>
CAE 513	Building Science	3
<b>Elective Courses</b>		<b>(6)</b>
Select a minimum of two courses from the following:		6
CAE 461	Plumbing and Fire Protection Design	3
CAE 466	Building Electrical/Lighting Systems Design	3
CAE 467	Lighting Systems Design	3
CAE 506	Building Envelope Rehabilitation	3
CAE 515	Building Energy Modeling	3
CAE 517	HVAC Systems Design	3
CAE 519	Structural Forensic Engineering	3
CAE 524	Building Enclosure Design	3
CAE 526	Energy Conservation in Buildings	3
CAE 538	Control of Building Environmental Systems	3
CAE 550	Applied Building Energy Modeling	3
CAE 553	Measurement and Instrumentation in Architectural Engineering	3
CAE 556	Net Zero Energy Building Design I	3
CAE 557	Net Zero Energy Building Design II	3
CAE 569	Construction Methods, Cost Estimating, and Project Budgeting	3
ENVE 503	Occupational and Environmental Health and Safety	3
ENVE 576	Indoor Air Pollution	3
<b>Total Credit Hours</b>		<b>9</b>