

Architectural & Building Tech

- BLDG 100 Methods and Materials 3 credits**
This course introduces students to the sustainable building materials and construction systems utilized in the design and construction of buildings. Students develop a basic understanding of common and innovative building components used to construct foundations, structural framing, and building envelope assemblies. In addition, students learn to match construction materials with appropriate construction methods and technologies. The course is divided into two lecture hours and two laboratory hours per week. Co-requisite: BLDG 110 Working Drawings.
- BLDG 110 Working Drawings 3 credits**
This course is an introduction to students to the fundamental skills of drawing and interpreting construction drawings. This course emphasizes both manual and computer-aided drawing techniques. Focus is placed on developing how to interpret design intent from drawings and how to match design intent to construction practices and process. The course is divided into two lecture hours and two laboratory hours per week. Co-requisites BLDG 100 Methods and Materials and BLDG 120 Revit or permission of instructor.
- BLDG 120 Revit 3 credits**
This course leads students through the process of creating a building model using the 3D building information modeling (BIM) software known as Revit. The course covers the use of BIM in the building design and construction industry, development of 3D model elements, views, dimensions and annotations, schedules, basic interior components, drawing sheets and printing, and basic 3D rendering. The course is divided into two lecture hours and two laboratory hours per week.
Prerequisites: None
- BLDG 150 Sustainability 3 credits**
This course is an introduction to the theory and principles of innovative sustainable construction. The course takes an integrated design and ecological systems approach to the design and construction of buildings. Students learn strategies to reduce the ecological impact of the built environment using cutting-edge best practices. Topics include green building principles and rating systems, energy efficiency, renewable energy, and innovative technologies. The course is divided into 2 lecture hours and 2 laboratory hours. No Prerequisites.
- BLDG 210 Construction Estimating 3 credits**
This course introduces the skills and tools necessary to prepare a construction cost estimate. This course covers topics such as reading and interpreting blueprint and construction documents as well as understanding construction materials, labor, and equipment costs. Focus is on estimation methodologies, labor and productivity, material quantity and pricing, indirect and overhead costs, bid analysis and use of computer estimation software. The course is divided into three lecture hours and two laboratory hours per week.
Prerequisites: BLDG 100 Methods and Materials, BLDG 110 Working Drawings and BLDG 120 Revit or permission of instructor.
- BLDG 230 Building Environmental Systems II 4 credits**
This course introduces the impact of daylighting and artificial lighting on the design and use of buildings. Acoustic performance and behavior of sound in buildings and how sound impacts the human experience of buildings are presented. This course highlights daylighting systems and the integration of electrical lighting, strategies for noise management, room acoustics, as well as a continued introduction to alternate and sustainable building energy systems. The course is divided into three lecture hours and two laboratory hours per week.
Prerequisites: BLDG 150 Sustainability or permission of instructor.
- BLDG 250 Site Design 3 credits**
This course provides a comprehensive introduction to the process offsite analysis. Students learn to gather, analyze, and synthesize information about a site and its context to inform design decisions. Students learn to interpret topographical information and how natural features impact site design decisions. Topics range from site hydrology, soils, vegetation, topography, building arrangement and form, regulation, and conservation and local community priorities. The course is divided into 2 lecture hours and 2 laboratory hours.
Prerequisites: BLDG 100 Methods and Materials and BLDG 110 Working Drawings and BLDG 120 Revit and BLDG 150 Sustainability Environmental Systems I or permission of instructor.
- BLDG 260 Building Science 3 credits**
This course introduces themes of materiality, structure, climate, and resilient design as key considerations in the shaping of construction detailing. This course focuses on innovative materials and assemblies, emerging and non-traditional construction methodologies, low-energy and passive building energy strategies and innovative problem analysis to meet the practical realities of intelligent construction. The course is divided into 2 lecture hours and 2 laboratory hours.
Prerequisites: BLDG 110 Working Drawings and BLDG 120 Revit and BLDG 140 Building Codes and BLDG 150 Sustainability or permission of instructor.