

# ARCHITECTURE (ARCH)

**ARCH A001N** **63 Hours (27 lecture hours; 36 lab hours)**  
**Design/Build 1 for Architecture Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

This learn-by-doing course involves the design and construction of a transportable structure. Students will work in teams with an instructor. Projects will vary and are likely to involve off-campus assembly. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A004N** **18 Hours (18 lecture hours)**  
**Introduction to FrameCAD Steel Framing Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

Introduction to FrameCAD Steel Framing is an overview of integrated steel panelization design and fabrication. Instruction includes entry level use of FrameCAD Structure and FrameCAD Detailer software as well as file export to FrameCAD Factory and machine. The class will produce and assemble a small sample project using the OCC FrameCAD F325iT. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A005N** **72 Hours (18 lecture hours; 54 lab hours)**  
**Architectural Drawing and Design Visualization 1 Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

This introductory course in architectural visualization techniques will focus on how to communicate a three-dimensional design using a two-dimensional medium. Subjects and techniques presented will include orthographic projection, paralines, plan views, elevations, sections, basic perspective drawing, rendering materials and tonal values, and an introduction to SketchUp and hand modeling. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A006N** **30 Hours (20 lecture hours; 10 lab hours)**  
**Accessory Dwelling Unit Design Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

Accessory Dwelling Unit (ADU) Design is a 5 week seminar course that introduces design concepts, codes, budgeting, and permit strategies unique to ADUs. ADUs are typically small second units added to existing single family home properties and allowable sizes and limitations vary by city and lot size. Students will plan out their own project and are encouraged to bring ideas and questions. A field visit to experience an ADU or similar sized structure will be organized as available. No prior experience needed. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A007N** **30 Hours (20 lecture hours; 10 lab hours)**  
**Tiny House Design Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

Tiny House Design is a 5 week seminar course that introduces design concepts, codes, budgeting, and building strategies unique to Tiny Houses. The course is packed with guest speakers, hands-on demonstrations, and information resources. Students will plan out their own project and are encouraged to bring lots of ideas and questions. A field trip to experience a tiny house build will also be scheduled. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A008N** **30 Hours (20 lecture hours; 10 lab hours)**  
**Solar Panels for Small Projects Noncredit**  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

Solar Panels for Small Projects is a 5 week course that introduces solar energy basics for small, off-grid photo voltaic installations. The course will cover solar energy fundamentals, electricity and safety basics, PV modules, system components, and system sizing. Students will plan out their own project or a small sample project. A small kit system will be available for hands-on demonstrations. No prior experience needed. Same as CNST A008N. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A021N** **48 Hours (36 lecture hours; 12 lab hours)**  
**FrameCAD Studio 1 Noncredit**  
**Advisory:** ARCH A004N.  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

FrameCAD Studio 1 is a project-based course that develops design skills to produce a steel panel project using FrameCAD software. Basic steel frame design concepts will be covered as well as use of FrameCAD Structure and FrameCAD Detailer. Students will also receive basic machine safety and steel panel assembly experience. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A022N** **48 Hours (36 lecture hours; 12 lab hours)**  
**FrameCAD Studio 2 Noncredit**  
**Advisory:** ARCH A021N.  
**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit  
 Not Transferable.

FrameCAD Studio 2 is a project-based intermediate course that develops design skills to produce a steel panel project using FrameCAD software. Students will be encouraged to design a project of choice and will work collaboratively to design and prepare each project for production. This is a continuation of FrameCAD Studio 1 and FrameCAD Structure and FrameCAD Detailer software will be used to design the projects and export to FrameCAD Factory software for production. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A030N 180 Hours (54 lecture hours; 126 lab hours)**

**Architectural Design and Theory 3 Noncredit**

**Advisory:** ARCH A215 or equivalent skill level.

**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit

Not Transferable.

This advanced architectural design course is a continuation of ARCH A215, dealing with theories, principles, methods and means used in the creation of architectural space by manipulation of form, space & light in an urban context. Focus is on the conceptual design process of establishing and challenging design criteria, communication and editing of design narrative, and portfolio development. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A041N 48 Hours (36 lecture hours; 12 lab hours)**

**FrameCAD Workshop 1 Noncredit**

**Advisory:** ARCH A004N.

**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit

Not Transferable.

FrameCAD Workshop 1 is a project-based course that develops beginning level production skills needed to produce a steel panel framing system using FrameCAD software and a FrameCAD F325iT machine. Students will be introduced to FrameCAD machine operation and safety and will be able to visit a steel frame project or production facility. Students will assist in running production jobs and gain experience in panel assembly and workflow. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A042N 48 Hours (36 lecture hours; 12 lab hours)**

**FrameCAD Workshop 2 Noncredit**

**Advisory:** ARCH A004N and ARCH A041N.

**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit

Not Transferable.

FrameCAD Workshop 2 is a project-based continuation of Workshop 1 that develops intermediate level production skills needed to produce steel panel framing systems using FrameCAD software and a FrameCAD F325iT machine. Students will review FrameCAD machine operation and safety and be involved in running production jobs and learning about panel assembly and fabrication workflow on the machine. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A043N 48 Hours (36 lecture hours; 12 lab hours)**

**FrameCAD Workshop 3 Noncredit**

**Advisory:** ARCH A004N, ARCH A041N and ARCH A042N.

**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit

Not Transferable.

FrameCAD Workshop 3 is a project-based continuation of FrameCAD Workshop 2 that develops advanced level production skills needed to produce steel panel framing systems using FrameCAD software and a FrameCAD F325iT machine. Students will review FrameCAD machine operation and safety and be involved in coordinating production jobs, panel assembly, and fabrication workflow on the machine. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.

**ARCH A085N 144 Hours (36 lecture hours; 108 lab hours)**

**Environmental Design Systems Noncredit**

**Advisory:** ARCH A180 or comparable course completion or work experience.

**Grading Mode:** P/NP/SP Noncredit, Letter Noncredit

Not Transferable.

This intermediate design course focuses on the environmental, cultural, and physical forces that affect architecture. Students will research and utilize design approaches and building components/systems that respond to human needs and the natural and built environments. Study topics will include site design and cultural context, environmental/climate responsive approaches to design, maintaining structural design integrity, incorporating life safety and access, and ecologically minded approaches to design. Noncredit. Pass/No Pass/Satisfactory Progress or Noncredit Letter Grade. NOT DEGREE APPLICABLE.