§130.53. Architectural Design I (One Credit), Adopted 2015. – Abridged Version

DOMAIN 1 – PROFESSIONAL PRACTICE

(1B) demonstrate an understanding of group participation and leadership related to citizenship and career preparation

(2A) self-monitor learning needs and seek assistance when needed

(2B) practice study habits necessary to manage academic pursuits and requirements

(2C) strive for accuracy and precision

(2D) complete and master tasks

(2E) demonstrate effective verbal and written communication skills with individuals from varied cultures, including fellow workers, managers, and customers

(2F) complete work orders and related paperwork

(2G) estimate jobs, schedules, and practices related to legal restrictions

(5C) strive for accuracy and precision

(5D) work independently

(5E) work collaboratively

DOMAIN 2 – OFFICE PRACTICE

(1D) apply the competencies related to resources, information, systems, and technology in appropriate settings and situations

(1E) demonstrate knowledge of the concepts and skills related to health and safety in the workplace, as specified by appropriate governmental regulations

(4A) use the tools, materials, and equipment commonly employed in the field of architecture in a safe manner

(4B) handle and dispose of environmentally hazardous materials

(5T) customize screen menus to fit specific problems or needs

(11A) prepare professional communications, technical reports, and presentations

DOMAIN 3 – CAREER RESEARCH

(1A) identify employment opportunities, including entrepreneurship and preparation requirements, in the field of architecture

(1C) identify employers' expectations and appropriate work habits

(8C) compare and contrast career opportunities in architecture

(10A) determine employment and entrepreneurial opportunities and preparation requirements in architecture and related fields

(10B) propose short-term and long-term career goals

(10E) develop a professional resume

DOMAIN 4 – PROJECT ORGANIZATION

(5A) use problem-solving skills to analyze a situation and identify a problem to be solved

(5B) break a complex problem into component parts that can be analyzed and solved separately

(5F) research an architectural project

(5G) design and present an effective architectural product

(5H) present a final architectural product for critique

(5I) apply architectural lettering techniques

(5J) develop preliminary sketches of a nonresidential or residential architectural design

(5K) use traditional technical architectural drafting techniques to create drawings

(5L) demonstrate through drawings the development of maximum efficiency of circulation within areas or rooms

(5M) develop a site plan using maximum orientation of the building relative to views, sun, and wind direction

(5N) develop building designs to ensure compatibility between interior and exterior to enhance overall appearance

(5O) draw schematic site plans, floor plans, building elevations, sections, perspectives, and character sketches from bubble diagrams

(5P) draw scaled wall thickness plans, elevations, and sections

(5Q) develop details of floor and wall sections as required

(5S) assemble an architectural design in three dimensions

(5U) construct points, lines, and other geometric forms using accepted computer-aided design methods

(5V) create a freehand simple one-point perspective

(5X) use a computer system to create and modify architectural drawings

(5Y) plot architectural drawings for presentation

(6A) begin illustrating ideas for architectural projects from direct observation, experiences, imagination

(7A) create beginning visual solutions by elaborating on direct observation, experiences, and imagination

(7B) create beginning designs for practical applications

(7C) demonstrate beginning effective use of architectural media and tools in design, drawing, painting, printmaking, and sculpture such as model building

(9A) interpret, evaluate, and justify architectural artistic decisions in personal architectural projects

(10D) maintain a project portfolio that documents experience by using graphic or written documentation of architectural-related projects

DOMAIN 5 – INDUSTRY MATERIALS & METHODS

(2H) read and interpret appropriate architectural symbols, schematics, blueprints, work drawings, manuals, and bulletins

(2I) apply descriptive geometry related to auxiliary views, revolutions, and intersections

(3A) demonstrate knowledge of architectural design principles

(3B) determine building code and zoning requirements for building types in a selected area

(3C) demonstrate knowledge of the various grades and types of construction materials

(4C) demonstrate knowledge of new and emerging technologies that may affect the field of architecture

(5R) demonstrate knowledge of the Americans with Disabilities Act

(6B) begin comparing and contrasting the use of architectural elements such as color, texture, form, line, space, value, and architectural principles such as emphasis, pattern, rhythm, balance, proportion, and unity in personal architectural projects and those of others using vocabulary accurately

(8A) compare and contrast historical and contemporary styles, identifying general themes and trends

(8B) describe general characteristics in architectural projects from a variety of cultures

(9B) select and analyze original architectural projects, portfolios, and exhibitions by peers or and others to form precise conclusions about formal qualities, historical and cultural contexts, intents, and meanings

(10C) describe technology used in architectural careers

(12A) identify the nature of energy

(12B) relate potential energy, kinetic energy, and heat energy to conservation

(12D) evaluate different methods of energy transfer

(12E) recognize sustainable design as it relates to architectural design

(12F) define green architecture as related to the field of architecture

DOMAIN 6 – MATHEMATICS & PHYSICS PRINCIPLES

(5W) use a computer system to create a bill of materials

(11B) apply mathematical equations

(11C) apply scientific principles and concepts

(12C) create an energy model