

## §130.42. Principles of Architecture (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  
(1E) demonstrate knowledge of the concepts and skills related to health and safety in the workplace, as specified by appropriate governmental regulations  
(6A) confirm understanding of verbal and visual instructions  
(6B) ask relevant questions concerning details of instructions  
(7A) provide verbal instructions  
(7B) listen attentively to spoken messages to respond to information  
(8A) communicate effectively to develop positive customer and client relationships  
(8B) develop and maintain customer relations  
(8C) define customer and client satisfaction  
(8D) evaluate customer and client satisfaction  
(17A) facilitate group work through management of shared schedules and contact information  
(17B) manage daily, weekly, and monthly schedules using an application  
(17C) maintain a shared database of contact information  
(22A) use human relations skills to work cooperatively with coworkers representing different cultures, genders, and backgrounds  
(22B) track team goals to contribute constructively and positively to the team  
(22C) match team members to appropriate activities  
(22D) manage skills to effectively accomplish assignments  
(22E) effectively use conflict-resolution skills with coworkers to maintain a smooth workflow  
(22F) use mentoring skills to inspire and motivate others to achieve and enhance performance  
(23A) apply the professional and ethical standards of the industry to personal conduct  
(23B) practice professional and ethical standard  
(23C) maintain personal integrity  
(23D) promote personal and professional integrity in coworkers  
(23E) recognize integrity in others  
(25A) exhibit behaviors showing reliability and dependability  
(25B) recognize appropriate dress for the work environment  
(26E) maintain positive interpersonal skills to enhance advancement potential

### **DOMAIN 2 – OFFICE PRACTICE**

(1D) apply the competencies related to resources, information, systems, and technology in appropriate settings and situations  
(5A) use technological applications to transmit reports  
(5B) develop written communications such as estimates, work orders, and memos  
(5C) read and follow technical instructions and manuals;  
(5D) compose an accurate and organized diary or log of work  
(5E) write reports and documents such as estimates, permits, memos, and technical reports  
(12A) manage personal and professional schedules and contact information  
(12B) manage daily, weekly, and monthly schedules using an application  
(12C) create memos and notes  
(13A) access an electronic system using login and password functions  
(13B) access electronic messages received  
(13C) create electronic messages in accordance with established business standards such as grammar, word usage, spelling, sentence structure, clarity, and etiquette  
(13D) practice appropriate electronic message etiquette  
(13E) send electronic messages  
(13F) use electronic devices to share files and documents  
(13G) access electronic devices for attachments  
(13H) attach documents to electronic messages  
(13I) save electronic messages and attachments  
(14A) prepare simple documents and other business communications  
(14B) retrieve existing documents  
(14C) create documents such as letters, memos, and reports using existing forms and templates  
(14D) safeguard documents using name and save functions  
(14E) format text using basic formatting functions  
(14F) employ word processing utility tools such as spell check, grammar check, and thesaurus  
(16A) manipulate data elements  
(16B) enter data using a form  
(16C) locate and replace data using search and replace functions  
(16D) process data using database functions such as structure, format, attributes, and relationships  
(21A) follow appropriate safety standards to ensure a safe environment  
(21B) practice safety rules and regulations  
(21C) identify safety precautions and hazards to ensure a safe environment  
(21D) use appropriate safety practices and equipment, including personal protective equipment  
(30A) select tools, machinery, and equipment to match requirements of the project  
(30B) safely operate tools, machinery, and equipment  
(30C) maintain and care for tools, machines, and, equipment  
(30D) use tools, machines, and equipment productively and efficiently in alignment with industry standards  
(30E) identify sources of information concerning state-of-the-art tools, equipment, materials, technologies, and methodologies  
(30F) read current periodicals, industry publications, and manufacturers' catalogs

### **DOMAIN 3 – CAREER RESEARCH**

(1A) identify employment opportunities, including entrepreneurship and preparation requirements, for careers in the architecture and construction cluster  
(1C) identify employers' expectations and appropriate work habits  
(26A) identify opportunities for career advancement to formulate career goals  
(26B) identify a career ladder  
(26C) develop a career advancement plan  
(26D) review progress of a career advancement plan  
(26F) explore education and training opportunities to acquire skills necessary for career advancement  
(26G) list postsecondary educational paths associated with the architecture and construction trades, including college, apprenticeship, and specialty trade schools  
(26H) explore costs associated with postsecondary education  
(26I) participate in professional development opportunities such as professional organizations and associations, trade shows, and seminars  
(26J) read professional journals, magazines, manufacturers' catalogs, industry publications, and Internet sites to keep current on industry trends  
(26K) identify declining and emerging occupations, practices, and procedures  
(27A) recognize segments of the construction industry and show the relationships to specialty areas  
(27B) obtain necessary knowledge and skills to enhance employability  
(27C) research local and regional labor markets and job growth information to project potential for advancement  
(27D) identify sources of career information  
(27E) identify job opportunities for the trade  
(27F) identify organizations that offer career and job placement  
(27G) analyze potential growth of identified careers  
(27H) apply labor market and job growth information to career goals  
(27I) examine licensing, certification, and credentialing requirements at the national, state, and local levels to achieve compliance  
(27J) align licensing, certification, and credentialing requirements to career goals in order to plan for career advancement  
(27K) use technologies and resources to research licensing, certification, and credentialing  
(27L) evaluate and select suitable sources of licensing, certification, and credentialing  
(27M) identify licenses, certifications, and credentials applicable to career goals  
(27N) document sources and agencies for licensing and certification and credentialing information, including contact information  
(28A) select education, work history, and skills to create a personal resume  
(28B) develop a resume using word processing technology  
(28C) contact professional references to acquire recommendations  
(28D) obtain appropriate letters of recommendation  
(28E) document and maintain a record of work experiences, licenses, certifications, credentials, and education and training to build a portfolio

### **DOMAIN 4 – PROJECT ORGANIZATION**

(9A) initiate a project, including identifying resources and materials and time-management, labor-management, job-management, and job-site obligations in order to effectively plan  
(9B) plan a project, including estimating correct amounts of required resources and materials and identifying risks  
(9C) evaluate the feasibility of alternative suggestions  
(9D) execute, monitor, control, and complete a project or resolve a problem using available resources and materials effectively  
(9E) close a project, including identifying lessons learned and evaluating waste of resources and materials  
(10A) incorporate potential job disruptions into planning timelines  
(10B) identify potential events and conditions that disrupt the completion of a job  
(10C) solve situational problems involved with unexpected events and conditions  
(10D) adjust plans and schedules to meet project needs  
(10E) modify existing plans and schedules to reflect an unexpected change  
(10F) identify and assess critical situations as they arise to resolve issues with the best solution  
(10G) present a project update to track changes necessitated by unexpected events and conditions  
(11A) provide a project update for stakeholders  
(11B) present a verbal or written status report on a project  
(20A) identify current industry standards and practices in order to incorporate quality into projects  
(20B) document how quality improves profitability  
(20C) report on issues that affect quality  
(20D) use industry standards and practices to enhance appreciation for quality workmanship  
(20E) perform work that meets or exceeds the quality standards of the industry  
(29A) interpret blueprints and drawings to assist with project planning  
(29B) recognize elements and symbols of blueprints and drawings  
(29C) relate information on blueprints to actual locations on the print  
(29D) recognize different classifications of drawings  
(29E) interpret and use drawing dimensions

### **DOMAIN 5 – INDUSTRY MATERIALS & METHODS**

(3B) identify the physical properties present when using common construction materials in order to use the materials safely, effectively, and efficiently  
(4A) recognize the issues present when mixing compatible and incompatible substances to maintain workplace and jobsite safety  
(4B) differentiate between incompatible and compatible substances  
(4C) describe the chemical process that occurs when using common construction materials to maintain workplace and jobsite safety  
(4D) apply chemical processes in relation to environmental conditions  
(18A) identify occupation-specific governmental regulations and national, state, and local building codes to establish appropriate regulations and codes  
(18B) comply with governmental regulations and building codes  
(18C) read and discuss information on Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), and other safety regulations  
(18D) read and discuss Safety Data Sheet (SDS) information to manage and dispose of hazardous materials  
(19A) align and incorporate the built environment and its systems to complete the project  
(19B) label all systems on a set of construction documents  
(19C) discuss the interrelationship of the systems in the built environment  
(19D) use a sequential method such as the critical path method so that work progresses efficiently  
(24A) study regulations and codes to identify those applicable to the local area  
(24B) locate and implement regulations and codes applicable to tasks and projects  
(24C) comply with local, state, and federal agencies and model code-setting organizations  
(24D) recognize the definition of specialized words or phrases to fully understand documents and contracts  
(24E) use industry jargon or terminology appropriately  
(24F) use industry acronyms correctly  
(24G) use words with multiple meanings correctly in context  
(24H) use ethical and legal standards to avoid conflicts of interest  
(25C) recognize the required employment forms and documentation such as I-9, work visa, W-4, and licensures to meet employment requirements  
(30G) explore state-of-the-art tools, equipment, materials, technologies, and methodologies

### **DOMAIN 6 – MATHEMATICS & PHYSICS PRINCIPLES**

(2A) determine areas and volumes of various structures and estimate materials and supplies using appropriate geometric formulas and calculations  
(2B) determine percentages and decimals and use percentages and decimals to perform measurement tasks using appropriate formulas and calculations  
(2C) determine ratios, fractions, and proportions using appropriate formulas and calculations  
(2D) perform measurement tasks using ratios, fractions, and proportions  
(2E) estimate materials and supplies using dimensions, spaces, and structures calculations  
(3A) apply basic concepts of static and loads to planning  
(15A) create, retrieve, edit, save, and print spreadsheets  
(15B) perform calculations and analysis on data  
(15C) group worksheets  
(15D) create charts and graphs from a spreadsheet  
(15E) perform calculations using simple formulas  
(15F) input and process data using spreadsheet functions