What is IDP?

The Intern Development Program (IDP) is an essential step in the path to become an architect. Your journey typically begins in a school of architecture; however, it does not end there. Ultimately, through the IDP you will learn about the daily realities of architectural practice, acquire comprehensive experience in basic practice areas, explore specialized areas of practice, develop professional judgment, and refine your career goals. IDP is designed to help you realize those goals.

The IDP was created jointly in the 1970s by the National Council of Architectural Registration Boards (NCARB) and the American Institute of Architects (AIA). The IDP is developed and administered by NCARB.

In most jurisdictions, completion of the IDP is a requirement for initial registration. The IDP identifies the comprehensive experience that is essential for competent practice. The program is structured to prepare you to practice architecture independently upon initial registration.

What is NCARB?

The National Council of Architectural Registration Boards, a non-profit organization, is a federation of the architectural licensing boards in each of the 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. These 54 boards constitute NCARB’s membership.

NCARB serves to protect the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects. NCARB is responsible for establishing, interpreting, and enforcing national standards for architectural licensure.

The U.S. Constitution establishes that individual states or jurisdictions maintain the actual power to regulate the practice of architecture, including the registration of architects. Each of NCARB’s 54 Member Boards has instituted a set of registration requirements that, when satisfied, results in the granting of a license to practice architecture within their jurisdiction.

What is an Intern?

In the architecture profession, an “intern” is any person who by means of their education or experience has qualified to enter the IDP.

In this document, the term intern refers to any individual in the process of satisfying a registration board’s experience requirements. This includes anyone not registered to practice architecture in a U.S. or Canadian jurisdiction, graduates from NAAB-accredited programs, architecture students who acquire acceptable experience prior to graduation, and other qualified individuals identified by a registration board.

Only individuals who are licensed by a board of architecture may call themselves architects.

The term “licensure” is used to denote the actual issuance and maintenance of an architectural license. Licensure is part of registration. This document refers to licensure and registration interchangeably.
IDP TASKS AND KNOWLEDGE/SKILLS

DESIGN

SCHEMATIC DESIGN

Minimum Schematic Design Experience: 320 Hours

DEFINITION: Involves the development of graphic and written conceptual design solutions for owner/client’s approval.

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:

• Develop design concepts, including site design
• Prepare schematic design documents
• Apply sustainable design principles
• Apply historic preservation principles
• Prepare presentation materials (e.g., models, renderings, drawings)
• Develop project phasing plans

KNOWLEDGE OF/SKILL IN

• 3-D modeling
• Adaptive reuse of buildings and/or materials
• Alternative energy systems and technologies
• Architectural history and theory
• Basic engineering principles
• Building design
• Building Information Modeling (BIM) technology
• Building systems and their integration
• Computer Aided Design and Drafting (CADD)
• Conflict resolution
• Construction sequencing
• Creativity and vision
• Critical thinking (e.g., analysis, synthesis, and evaluation of information)
• Design impact on human behavior
• Design principles
• Designing and delivering presentations
• Freehand drawing and design sketching
• Graphic communication
• Implications of design decisions (e.g., cost, engineering, schedule)
• Interpersonal skills (e.g., listening, diplomacy, responsiveness)
• Life safety
• Manual drafting
• Natural and electric lighting (e.g., daylight, solar control, energy consumption)
• Oral and written communications
• Problem solving
• Site design
• Space planning
• Spatial visualization and modeling
• Sustainable design
• Team building, leadership, participation
• Universal design (environments usable by everyone regardless of limitations)
• Vertical circulation

ENGINEERING SYSTEMS

Minimum Engineering Systems Experience: 360 Hours

DEFINITION: Involves selecting and specifying structural, mechanical, electrical, and other systems, and integrating them into the building design. These systems are normally designed by consultants in accordance with the client’s needs.

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:

• Analyze and design basic structural elements and systems
• Coordinate building systems (e.g., structural, mechanical, electrical, fire safety, security, telecommunications/data) and reconcile systems’ conflicts
• Apply sustainable design principles

KNOWLEDGE OF/SKILL IN

• Adaptive reuse of buildings and/or materials
• Alternative energy systems and technologies
• Basic engineering principles
• Building envelope
• Building Information Modeling (BIM) technology
• Building systems and their integration
• Characteristics and properties of construction materials
• Conflict resolution
• Critical thinking (e.g., analysis, synthesis, and evaluation of information)
• Design impact on human behavior
• Design principles
• Engineering load calculations
• Hazardous materials mitigation
• Implications of design decisions (e.g., cost, engineering, schedule)
• Indoor air quality
• Interpersonal skills (e.g., listening, diplomacy, responsiveness)
• Life safety
• Life cycle analysis
• Natural and electric lighting (e.g., daylight, solar control, energy consumption)
• Oral and written communications
• Problem solving
• Product evaluation, selection, and availability
• Sustainable design
• Team building, leadership, participation
• Technological advances and innovative building products
• Vertical circulation
IDP TASKS AND KNOWLEDGE/SKILLS

DESIGN

DESIGN DEVELOPMENT
Minimum Design Development Experience: 320 Hours

DEFINITION: During design development, a project’s schematic design is refined, including designing details and selecting materials. This step occurs after the owner/client has approved the schematic design.

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:
• Prepare design development documents
• Investigate and select building systems and materials
• Meet with client to refine design and obtain approvals
• Conduct or respond to a constructability review
• Apply sustainable design principles

KNOWLEDGE OF/SKILL IN
• 3-D modeling
• Adaptive reuse of buildings and/or materials
• Alternative energy systems and technologies
• Applied mathematics (e.g., algebra, geometry, trigonometry)
• Basic engineering principles
• Building design
• Building envelope
• Building Information Modeling (BIM) technology
• Building systems and their integration
• Characteristics and properties of construction materials
• Computer Aided Design and Drafting (CADD)
• Conflict resolution
• Constructability
• Construction details
• Construction sequencing
• Creativity and vision
• Critical thinking (e.g., analysis, synthesis, and evaluation of information)
• Design impact on human behavior
• Design principles
• Designing and delivering presentations

• Engineering load calculations
• Freehand drawing and design sketching
• Furnishings, fixtures, and equipment
• Graphic communication
• Hazardous materials mitigation
• Implications of design decisions (e.g., cost, engineering, schedule)
• Indoor air quality
• Interior materials and finishes
• Interpersonal skills (e.g., listening, diplomacy, responsiveness)
• Life safety
• Managing quality through best practices
• Manual drafting
• Natural and electric lighting (e.g., daylight, solar control, energy consumption)
• Oral and written communications
• Problem solving
• Product evaluation, selection, and availability
• Project scheduling (e.g., construction document setup, storyboarding, staffing projections)
• Site design
• Space planning
• Spatial visualization and modeling
• Specifications
• Sustainable design
• Team building, leadership, participation
• Technological advances and innovative building products
• Universal design (environments usable by everyone regardless of limitations)
• Vertical circulation
IDP TASKS AND KNOWLEDGE/SKILLS

DESIGN

CONSTRUCTION DOCUMENTS

Minimum Construction Documents Experience: 1,200 Hours

DEFINITION: Includes the written and graphic instructions used for construction of the project. These documents must be accurate, consistent, complete, and understandable.

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:

- Prepare construction documents
- Coordinate construction documents (e.g., architectural, structural, mechanical, civil, electrical)
- Conduct quality control review of project documents
- Apply sustainable design principles

KNOWLEDGE OF/SKILL IN

- 3-D modeling
- Adaptive reuse of buildings and/or materials
- Alternative energy systems and technologies
- Basic engineering principles
- Building design
- Building envelope
- Building Information Modeling (BIM) technology
- Building systems and their integration
- Characteristics and properties of construction materials
- Computer Aided Design and Drafting (CADD)
- Conflict resolution
- Constructability
- Construction details
- Construction sequencing
- Creativity and vision
- Critical thinking (e.g., analysis, synthesis, and evaluation of information)
- Design impact on human behavior
- Design principles
- Designing and delivering presentations
- Engineering load calculations
- Freehand drawing and design sketching

- Furnishings, fixtures, and equipment
- Graphic communication
- Hazardous materials mitigation
- Implications of design decisions (e.g., cost, engineering, schedule)
- Indoor air quality
- Interior materials and finishes
- Interpersonal skills (e.g., listening, diplomacy, responsiveness)
- Life safety
- Managing quality through best practices
- Manual drafting
- Natural and electric lighting (e.g., daylight, solar control, energy consumption)
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- Sustainable design
- Team building, leadership, participation
- Technological advances and innovative building products
- Vertical circulation
IDP TASKS AND KNOWLEDGE/SKILLS

DESIGN

MATERIAL SELECTION AND SPECIFICATION

Minimum Material Selection and Specification Experience: 160 Hours

DEFINITION: The analysis and selection of building materials and systems for a project. The materials specified for a particular project communicate the requirements and quality expected during construction. Specifications are included in a project manual that is used during bidding and construction.

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:

• Prepare specifications based on performance criteria
• Research, select, and specify materials

KNOWLEDGE OF/SKILL IN

• Adaptive reuse of buildings and/or materials
• Alternative energy systems and technologies
• Basic engineering principles
• Building design
• Building envelope
• Building Information Modeling (BIM) technology
• Building systems and their integration
• Characteristics and properties of construction materials
• Constructability
• Construction details
• Construction sequencing
• Critical thinking (e.g., analysis, synthesis, and evaluation of information)
• Design principles
• Furnishings, fixtures, and equipment
• Hazardous materials mitigation
• Implications of design decisions (e.g., cost, engineering, schedule)
• Indoor air quality
• Interior materials and finishes
• Interpersonal skills (e.g., listening, diplomacy, responsiveness)
• Life safety
• Managing quality through best practices
• Oral and written communications
• Product evaluation, selection, and availability
• Project scheduling (e.g., construction document setup, storyboarding, staffing projections)
• Site design
• Specifications
• Sustainable design
• Technological advances and innovative building products
• Vertical circulation

PROJECT MANAGEMENT

BIDDING AND CONTRACT NEGOTIATION

Minimum Bidding and Contract Negotiation Experience: 120 Hours

DEFINITION: Involves the establishment and administration of the bidding process, issuance of addenda, evaluation of proposed substitutions, review of bidder qualifications, analysis of bids, and selection of the contractor(s).

TASKS

AT THE COMPLETION OF YOUR INTERNSHIP, YOU SHOULD BE ABLE TO:

• Conduct or participate in bidding/negotiating phase
• Evaluate product and material substitutions
• Prepare bid documents including addenda

KNOWLEDGE OF/SKILL IN

• Conflict resolution
• Construction procurement (e.g., bidding, negotiating)
• Contracts (e.g., professional services and construction)
• Interpreting construction documents
• Oral and written communications
• Product and material substitutions
• Project delivery methods
INTRODUCTION: WHAT IS THE ARE®?

The Architect Registration Examination® (ARE®) is developed by the National Council of Architectural Registration Boards (NCARB). The ARE is used by U.S. state and territorial registration boards as the registration examination for candidates for architectural registration. It is also accepted by select Canadian provincial and territorial architectural associations for registration.

The ARE assesses a candidate’s knowledge, skills, and abilities to provide various services required in the practice of architecture. No single examination can test for competency in all aspects of architectural practice; the ARE is not intended for that purpose. The ARE concentrates on the professional services that affect the public health, safety, and welfare. The intent of the examination is to evaluate a candidate’s competence to protect the public by providing the architectural services of pre-design, site design, building design, building systems, and construction documents and services as they relate to social, cultural, natural and physical forces, and to other related external constraints.

In addition to testing for competence in specific subject areas, NCARB is aware of the responsibilities an architect may have for coordinating the activities of others involved in the design/construction process. The ARE attempts to determine a candidate’s qualifications not only in performing measurable tasks, but also in exercising the skills and judgment of a generalist working with numerous specialists. In short, the objective is to reflect the practice of architecture as an integrated whole.

The ARE is administered exclusively on computers at a network of test centers across the United States and its territories; Canada; London, England; Hong Kong, People’s Republic of China; and Abu Dhabi, United Arab Emirates. Scores for each division will be made available to the board of architecture that qualified the candidate for the examination. That board of architecture has the ultimate authority to determine a candidate’s qualifications to practice architecture within its jurisdiction.

Prior to taking the ARE, you must be made eligible by one of NCARB’s member registration boards or one of the Canadian provincial architectural associations (or via NCARB for boards participating in NCARB’s Direct Registration Program). It is not possible to “sign-up” for the exam with NCARB’s testing consultant. Only individuals who have been made eligible for the ARE will be permitted to take the exam. For more on eligibility, please see page 8.

ARE 4.0 consists of the following seven divisions:

- Programming, Planning & Practice
- Site Planning & Design
- Building Design & Construction Systems
- Schematic Design
- Structural Systems
- Building Systems
- Construction Documents & Services

To help candidates prepare for the examination, the content areas and references for each division are available to be downloaded from NCARB’s website here.®

Languages
ARE 4.0 is only available in English.

Units of Measurement
Effective July 2013, the ARE includes measurements in inch-pound units only.

ARE 5.0
ARE 5.0 will launch in late 2016. Learn more.
### STEPS TO COMPLETING THE ARE

**Step 2: Scheduling an Exam Appointment (continued)**

**APPOINTMENT TIMES**

Each testing appointment you schedule includes an overall amount of time for various introductory screens, a mandatory scheduled break, and a post-administration survey. The following tables show the total scheduled appointment time for each division along with a breakdown of the time allotted for each testing portion.

<table>
<thead>
<tr>
<th>PROGRAMMING, PLANNING &amp; PRACTICE</th>
<th>SCHEDULED APPOINTMENT TIME</th>
<th>Intro Time</th>
<th>MC Testing Time</th>
<th>Scheduled Break</th>
<th>Graphic Testing Time</th>
<th>Exit Questionnaire</th>
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<th>SCHEDULED APPOINTMENT TIME</th>
<th>Intro Time</th>
<th>MC Testing Time</th>
<th>Scheduled Break</th>
<th>Graphic Testing Time</th>
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<tr>
<th>BUILDING DESIGN &amp; CONSTRUCTION SYSTEMS</th>
<th>SCHEDULED APPOINTMENT TIME</th>
<th>Intro Time</th>
<th>MC Testing Time</th>
<th>Scheduled Break</th>
<th>Graphic Testing Time</th>
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<th>Scheduled Break</th>
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<tr>
<th>CONSTRUCTION DOCUMENTS &amp; SERVICES</th>
<th>SCHEDULED APPOINTMENT TIME</th>
<th>Intro Time</th>
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<th>Scheduled Break</th>
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The division has been broken down into a listing of knowledge and skills directly related to each major content area.

1. **GENERAL STRUCTURES**
   (50-54 percent of scored items)
   
   A. **Principles**
      Apply general structural principles to building design and construction.
      
      1. **Building Design**
         Analyze and investigate the structural loads and conditions that affect building design through use of engineering principles and functional requirements.
      
      2. **Building Systems and their Integration**
         Determine appropriate building structural systems and components.
      
      3. **Implications of Design Decisions**
         Evaluate the impact of structural design decisions on other building design issues.
   
   B. **Materials & Technology**
      Analyze the implications of design decisions in the selection of systems, materials, and construction details related to general structural design.
      
      1. **Construction Details and Constructability**
         Analyze the impact of structural decisions on the construction process.
      
      2. **Construction Materials**
         Apply knowledge of the properties of materials that affect their structural characteristics.
   
   C. **Codes & Regulations**
      Incorporate building codes, specialty codes, and other regulatory requirements in the design of general structural systems.
      
      1. **Government and Regulatory Requirements**
         Assess and apply building codes and other regulations that affect structural systems.
2. **SEISMIC FORCES**  
(18-22 percent of scored items)

A. **Principles**  
Apply seismic forces principles to building design and construction.

1. **Building Design**  
Analyze and investigate seismic loads and conditions that affect building design through use of engineering principles and functional requirements.

2. **Building Systems and their Integration**  
Determine appropriate seismic load resisting systems and components.

3. **Implications of Design Decisions**  
Evaluate the impact of seismic load design decisions on other building design issues.

B. **Materials & Technology**  
Analyze the implications of design decisions in the selection of systems, materials, and construction details related to seismic forces design.

1. **Construction Details and Constructability**  
Analyze construction details and non-structural elements relative to their resistance to seismic forces.

2. **Construction Materials**  
Consider construction materials relative to their resistance to seismic forces.

C. **Codes & Regulations**  
Incorporate building codes, specialty codes, and other regulatory requirements related to seismic forces.

1. **Government and Regulatory Requirements**  
Assess and apply building codes and regulations with respect to the design of structures for resistance to seismic forces.

3. **WIND FORCES**  
(18-22 percent of scored items)

A. **Principles**  
Apply lateral forces principles to the design and construction of buildings to resist wind forces.

1. **Building Design**  
Analyze and investigate wind loads and conditions that affect building design through use of engineering principles and functional requirements.

2. **Building Systems and their Integration**  
Determine appropriate wind load resisting systems and components.

3. **Implications of Design Decisions**  
Evaluate the impact of wind load design decisions on other building design issues.

B. **Materials & Technology**  
Analyze the implications of design decisions in the selection of systems, materials, and construction details related to wind forces.

1. **Construction Details and Constructability**  
Analyze construction details and non-structural elements relative to their resistance to wind forces.

2. **Construction Materials**  
Consider construction materials relative to their resistance to wind forces.

C. **Codes & Regulations**  
Incorporate building codes and other regulatory requirements related to wind forces.

1. **Government and Regulatory Requirements**  
Assess and apply building codes and regulations with respect to the design of structures for resistance to wind forces.
4. LATERAL FORCES
(7-9 percent of scored items)

A. Principles
   Apply lateral forces principles to the design and construction of buildings.

   1. Building Design
      Analyze and investigate lateral loads and conditions that affect building design through use of engineering principles and functional requirements.

   2. Building Systems and their Integration
      Determine appropriate lateral load resisting systems and components.

   3. Implications of Design Decisions
      Evaluate the impact of lateral load design decisions on other building design issues.

B. Materials & Technology
   Analyze the implications of design decisions in the selection of systems, materials, and construction details related to lateral forces.

   1. Construction Details and Constructability
      Analyze construction details and non-structural elements relative to their resistance to lateral forces.

   2. Construction Materials
      Consider construction materials relative to their resistance to lateral forces.
Program
The preliminary floor plan for an urban mini-mall has been completed and approved, and you are now required to develop a roof framing layout for the building or portion of the building shown on the work screen. The layout must accommodate the conditions and requirements given below.

Site/Foundation
1. The site has no seismic activity and wind pressures are negligible.
2. The soils and foundation system should be assumed adequate for all standard and normal loads.
3. The distribution of concentrated or special loads need not be considered.

Construction/Materials
1. Structural steel/open web steel joist construction has been chosen for the roof structure type.
2. Steel beam sections are to be rolled or built-up.
3. The metal roof deck is capable of carrying the design loads on spans up to and including 4 ft.
4. Joists are sized to carry roof loads only.

General Requirements
1. All portions of the roof framing are flat.
2. Cantilevers are prohibited.
3. Structural members must not extend beyond the building envelope, except to frame a designated covered entry.

4. Columns may be located within walls, including the window wall and the clerestory window wall.
5. Walls shown on the background floor plan may be designated as bearing walls. Additional bearing walls are not allowed.
6. Lintels are required to be shown in bearing walls only. Other lintels shall not be indicated.
7. The opening located between the common area and the seating area must be unobstructed and column-free.
8. The common area must be column-free.
9. The window wall and the clerestory window extend to the underside of the structure above. All other openings have a head height of 7 ft above finish floor.
10. The roof over the high ceiling space must be higher than the roof over the low ceiling spaces.
    - THE COMMON AREA REQUIRES A HIGH CEILING WITH A TOP OF STRUCTURE HEIGHT OF 18 FT.
    - THE REMAINING SPACES REQUIRE A LOW CEILING WITH A TOP OF STRUCTURE HEIGHT OF 12 FT.
11. The structure must accommodate a clerestory window to be located along the full length of the north wall of the common area.
### ARE 5.0 Divisions

Use these columns to determine which ARE 4.0 division(s) you will need to pass to earn an ARE 5.0 credit.

<table>
<thead>
<tr>
<th>ARE 4.0 Divisions</th>
<th>ARE 5.0 Divisions</th>
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</thead>
<tbody>
<tr>
<td>Documents &amp; Services</td>
<td>●</td>
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<tr>
<td>Programming Planning &amp; Practice</td>
<td>●</td>
</tr>
<tr>
<td>Site Planning &amp; Design</td>
<td>●</td>
</tr>
<tr>
<td>Building Design &amp; Construction Systems</td>
<td>●</td>
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<tr>
<td>Structural Systems</td>
<td>●</td>
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<tr>
<td>Building Systems</td>
<td>●</td>
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<tr>
<td>Schematic Design</td>
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</tbody>
</table>

### ARE 4.0 CREDIT MODEL

This matrix identifies the relationships across the current seven divisions of ARE 4.0 and the future six divisions of ARE 5.0. Exam expiration date(s) of ARE 4.0 divisions will be applied to ARE 5.0 credits earned.

### ARE 4.0 Divisions

If you do not pass a division of ARE 4.0, use these rows to determine which ARE 5.0 division(s) you will need to complete.
Division: **Project Planning & Design** *(continued)*

**Section 3. Building Systems, Materials, & Assemblies (19-25%)**

- **Objective 3.1** Determine mechanical, electrical, and plumbing systems *(A/E)*
- **Objective 3.2** Determine structural systems *(A/E)*
- **Objective 3.3** Determine special systems such as acoustics, communications, lighting, security, conveying, and fire suppression *(A/E)*
- **Objective 3.4** Determine materials and assemblies to meet programmatic, budgetary, and regulatory requirements *(A/E)*

**Section 4. Project Integration of Program & Systems (32-38%)**

- **Objective 4.1** Determine building configuration *(A/E)*
- **Objective 4.2** Integrate building systems in the project design *(A/E)*
- **Objective 4.3** Integrate program requirements into a project design *(A/E)*
- **Objective 4.4** Integrate environmental and contextual conditions in the project design *(A/E)*

**Section 5. Project Costs & Budgeting (8-14%)**

- **Objective 5.1** Evaluate design alternatives based on the program *(A/E)*
- **Objective 5.2** Perform cost evaluation *(A/E)*
- **Objective 5.3** Evaluate cost considerations during the design process *(A/E)*
Division: **Project Development & Documentation**

**Division Description:**
This division will assess objectives related to the integration and documentation of building systems, material selection, and material assemblies into a project. The division will focus on issues related to the development of design concepts, the evaluation of materials and technologies, selection of appropriate construction techniques, and appropriate construction documentation. Candidates must demonstrate an understanding of and abilities in, integration of civil, structural, mechanical, electrical, plumbing, and specialty systems into overall project design and documentation.

This division will test a candidate’s ability to protect the public’s health, safety and welfare by:

- Evaluating project documentation for the constructability of a building and site
- Integrating technical knowledge and information to refine a design
- Integrating materials and building systems to meet the project design requirements
- Translating design decisions into appropriate construction documentation

**Division Specification:**

**Section 1. Integration of Building Materials & Systems (31-37%)**

**Objective 1.1.** Analyze the integration of architectural systems and technologies to meet project goals *(A/E)*

**Objective 1.2.** Determine the size of mechanical, electrical, plumbing systems and components to meet project goals *(U/A)*

**Objective 1.3.** Determine the size of structural systems to meet project goals *(U/A)*

**Objective 1.4.** Integrate specialty systems such as acoustics, lighting, fire suppression, conveying, security, and communications to meet project goals *(U/A)*

**Objective 1.5.** Determine how to detail the integration of multiple building systems and technologies *(U/A)*

**Objective 1.6.** Coordinate mechanical, electrical, plumbing, structural, and specialty systems and technologies *(U/A)*