

PROJECT PLANNING AND DESIGN [PPD]; 4 hr 15 minutes exam / 120 questions

notes: information in exam is at 1/8", 1/4" and or 1/2" scale
information on exam is more visual than PPD
test covers materials etcetera but ALSO, programming, planning, site, ADA etc.
test is broader than PDD
test if graphic

PROJECT PLANNING AND DESIGN [PPD] references per HANDBOOK

PUBLICATIONS

- [/] architectural graphic standards (john wiley and sons) [AKA "AGS]
- [/] building codes illustrated: a guide to understanding the 2012 international building code (john wiley and sons)
 - *chapters 3 - 6, 7, 8 and 10*
 - note for testing purposes this is the 2012 version and charts in the exam or case study will be for the 2012 version.
- [] building structures (ambrose and tipeny; john wiley and sons)
- [/] fundamentals of building construction: materials and methods (allen and iano, john wiley and sons)
- [/] mechanical and electrical equipment for buildings (grondzik, kwok, stein and reynolds; john wiley and sons) [AKA "MEEB"]
 - need recommendations for important chapters for this volume

CODES

- [/] 2010 ADA standards for accessible design (US department of justice)
- [/] international building code 2012 (international code council).
 - *chapters 3 - 6 and 9, 10 and 11 (?)*
 - note for testing purposes this is the 2012 version and charts in the exam or case study will be for the 2012 version.

AIA contract documents (not applicable)

PPD references per MATRIX

- [] 2009 ASHRAE handbook; fundamentals, I-P edition (american society of heating, refrigeration, and air conditioning engineers)
- [] † **2010 ADA standards for accessible design** (US department of justice)
- [] the architect's handbook of professional practice (AIA; john wiley and sons) [AKA "AHPP"]
 - 7.4 value analysis and 7.5 life cycle costing. also case studies pp. 568 - 572.
- [] architectural acoustics (egan; j ross/mcgraw hill)
- [] + architectural graphic standards (john wiley and sons) [AKA "AGS"]
- [] architectural graphic standards for residential construction (AIA; john wiley and sons)
- [] + building codes illustrated: a guide to understanding the 2012 international building code (john wiley and sons).
 - *see notations on this book above.*
- [] building construction illustrated (ching; john wiley and sons) <
- [] + building structures (ambrose and tipeny; john wiley and sons) <
- [] dictionary of architecture and construction (harris; mcgraw-hill)
- [] + fundamentals of building construction: materials and methods (allen and iano, john wiley and sons)

- [] heating, cooling, lighting: sustainable design methods for architects (lechner; john wiley and sons)
- [] the HOK guidebook to sustainable design (mendler, odell and lazarus; john wiley and sons)
- [] international building code 2012 (international code council)
- [] † **landscape architectural graphic standards** (hopper; john wiley and sons)
- [] + mechanical and electrical systems in buildings (janis and tao; prentice hall)
- [] olin's construction principles materials and methods (simmons; john wiley and sons)
- [] plumbing, electricity, acoustics: sustainable design methods for architecture (lechner; john wiley and sons)
- [] † **site engineering for landscape architects** (stroms, nathan and woland; john wiley and sons)
- [] † **site planning and design handbook** (russ; mcgraw-hill). *chapters 1 - 4 and 7 - 9. also appendix A.*
- <
- [] structural design: a practical guide for architects (underwood and chiuni; john wiley and sons)
- [] structures (schodek and bechthold; pearson / prentice hall)
- [] † **sun, wind and light: architectural design strategies** (brown and dekey; john wiley and sons)
- [] † **sustainable construction: green building design and delivery** (kibert; john wiley and sons)
- [] time-saver standards for architectural design: technical data for professional practice (watson and crosbie; mcgraw-hill)
- [] a visual dictionary of architecture (ching; john wiley and sons)

OTHER FELLOW TESTER RECOMMENDED REFERENCES

- [] the architect's studio companion (allen and iano; john wiley and sons).
 - highly recommended. skip the parking chapter
- [] FEMA 454: designing for earthquakes - a manual for architects (federal emergency management administration).
 - chapters 4 and 5 highly recommended. also 5.2.1 and 7.4.
 - <https://www.fema.gov/media-library/assets/documents/8669>
- [] design with climate: bioclimatic approach to architectural regionalism (olgyay; princeton architectural press).
 - suggested alternative to other climate oriented book. not a john wiley publication like all the rest are. draw your own conclusions.

THIRD PARTY STUDY MATERIALS

- [] ballast 4.0
 - [] SS
 - [] BS
 - [] BCDS
 - [] SPD (?)
 - [] PPP (?)

ballast 5.0

- [] SPD
- [] other (?)

KEY

+ a "matrix" reference that is also shown in the "References" for that division

† a "matrix" reference that is NOT also in the other division (i.e. if listing is in PPD then reference is not in PDD and vice versa. note this means ALL other "matrix" references listed are in both PPD and PDD)

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PROJECT PLANNING AND DESIGN "SECTIONS"

section 1: environmental conditions and context (15%)

section 2: codes and regulations (20%)

section 3: building systems, materials and assemblies (20%)

section 4: project integration of programs and systems (35%)

section 5: project costs and budgeting (10%)

PROJECT PLANNING AND DESIGN "OBJECTIVES"

environmental conditions and context

1.1 determine location of building and site improvements based on site analysis

- based on views, wind, topography, adjacencies, program, planning concepts, and other factors, you will need to be able to locate a new built project on the site. this can include the orientation of one building, the arrangement of multiple buildings, or the configuration of site improvements

1.2 determine sustainable principles to apply to design

- an architect must use sun, wind, temperature, precipitation, and other climatic data to select building orientation and shape, building envelope design, and active and/or passive building systems. sustainable principles also include considering recycled content and identifying opportunities to minimize waste when selecting building materials.

1.3 determine impact of neighborhood context on the project design

- you will need to consider the character of a site's neighborhood, including proximity to various modes of transit, nearby amenities, the scale of adjacent buildings, surrounding facade materials, historic precedent, and historic preservation requirements. understanding how these impact a project is necessary.

codes and regulations:

2.1 apply zoning and environmental regulations to site and building design

- it is important to understand the regulations that govern the outside of a building, including standard and accessible parking requirements, allowable building size based on FAR, site coverage, and property line setbacks

2.2 apply building codes to building design

- it is also important to assess the building code requirements that impact a project. this includes building height and area limits, maximum occupant load, fire separation, required egress, and accessibility. architects must be able to compile this information into a code analysis and incorporate it into the design

2.3 integrate multiple codes to a project design

- multiple codes may govern a project, depending on the jurisdiction, funding stream, or other factors. you will need to understand the use of related codes, like energy, mechanical, and universal design; determine how multiple codes are used together; and discern which code governs when a conflict arises.

building systems, materials and assemblies

3.1 determine mechanical, electrical, and plumbing systems

- you will need to evaluate mechanical, electrical, and plumbing systems, and select the appropriate system for a building based on function cost, size, availability, programmatic needs, or other factors

3.2 determine structural systems

- you will need to evaluate different structural systems and select the appropriate system and layout for a building based on its size, function, and structural loads. system cost and availability must also be considered.

3.3 determine special systems such as acoustics, communications. lighting, security, conveying, and fire suppression

- you will need to evaluate specialty systems and select the appropriate systems for a building based on the building type, function, and programmatic requirements

3.4 determine material assemblies to meet programmatic, budgetary, and regulatory requirements

- you will need to select a building's envelope system, interior materials, and other assemblies based on cost, availability, program requirements, environmental conditions, or other factors.

project integration of program and systems

4.1 determine building configuration

- as an architect, you will need to resolve the building's configuration based on program and code requirements, selected MEP and structural systems, site conditions, historic precedent and principles of design logic.

4.2 integrate building systems in the project design

- within this division is the beginning of systems coordination. you must consider how the selected systems fit together, both spatially and functionally, and how they are coordinated into the architectural design

4.3 integrate program requirements into a project design

- architects must be able to reconcile the relationships between various program requirements, evaluate the program's impact on cost and building systems, and assess how the program is affected by environmental factors.

4.4 integrate environmental and contextual conditions in the project design

- you will need to incorporate various design strategies, including those assessed in Section 1, into the project. this may include elements like view corridors, shading elements, building materials, and landscape design.

END