



# PCM/PJM STUDY QUESTIONS

## WEEK 1

**Business Operations** - Utilization Ratio

**Business Operations** - Insurance

**Business Operations** - Ethics

**Business Operations** - Standard of Care

**Risk & Development** - Instruments of Service

**Finances** - Loss-Profit Statement

**Finances** - Balance Sheets



# WELCOME!

I hope this course marks the beginning of the end of your PCM/PJM experience!

Ever heard of muscle confusion? I think you can do something similar with studying, although Brain Confusion doesn't seem like it would really get popular. But hear me out. When studying for these exams I believe you have to be very regimented. You need to set an exam date, figure out everything you need to study between now and then, and write it down in a list. Seriously, use Excel and schedule exactly what you're going to study every night. You need to define a time for yourself to do all these things.

Those are your rules, and you need to do your best to follow them. Just like design, the best study results come when you follow the rules just enough to know when you can bend them. So be strict, but you can let yourself get off-topic in an efficient manner. Some things you shouldn't study in a specifically defined time. For PcM/PjM I think that one thing is the AIA Contracts. You need to get these down cold, and the best way is to have them always on your mind. Still define a time just for the contracts, but make sure you're looking at them a little bit every day all the way through.

To help you with this I am adding a suggested Article from different AIA Contracts to the end of each assignment. Look for it at the bottom of each page. These have nothing to do with the assignments above, just an extra thing to help you focus on something new.

I have an idea of what this course will be, but like the the PPD/PDD Course, these things sometimes take on a life of their own. So who know where we'll end up with this. I'm excited to find out though.

Thank you for signing up, do well on your exams and keep in touch!

Regards,  
Ben

# BUSINESS OPERATIONS - FINANCES

## ASSIGNMENT 1

There are 7 key indicators of financial performance of which you need to be aware.

- » What are these indicators?
- » In your own words, define Utilization Rate
- » What's a good utilization rate? What's too low? Is there a too high?
- » Can you figure out your own personal utilization rate?
- » What's the utilization rate for the employee shown to the right?

EMPLOYEE A	
Task	Time
Project A Schematic Design	25
Project A Design Development	10
Project B	17
Staff Training	2
Reading Hyperfine Blog	15
General Admin	5
Marketing & Website Work	6
<b>Notes:</b> Project B is billed 1 Hourly Not to Exceed 15 Hours Staff Training Topic: 2015 IBC	

## REFERENCES

EntreArchitect: [7 Key Financial Performance Indicators for a Successful Architecture Firm](#)

Note: This article is written by the author of, and covers similar content to, the AHPP section listed below

AIA: [High Performing Firms: By the Numbers](#)

Note: Also get free Deltek report linked in this article. See pg 10+. Will need to give them an email address

Architect's Handbook of Professional Practice: Read Section 7.2 and pg 421 Direct & Indirect Time

Young Architect PCM 101: Lesson 2.1

YOUR NOTES

# BUSINESS OPERATIONS - INSURANCE

## ASSIGNMENT 2

Ugghhh insurance. So boring.

- » What types of insurance are required by AIA-2017 B101?
  - » Briefly describe each type of insurance.
  - » Which one is also known as Errors & Omissions?
  - » Match the events on the right with the type of insurance policy they may be claimed against.
  - » You have \$2,000,000 of coverage with a \$100,000 deductible when you design a building. After the project is complete you reduce coverage to \$1,000,000/\$50,000. A claim is made for \$1,750,000. How much will you have to pay?
- » Employee crashes car going to site visit
  - » Client gets hurt walking down stairs in your office
  - » Employee who crashed car sues you because you made them drive to site when it was snowing.
  - » Foundation poured in wrong location because incorrect dimension shown on plans.
  - » Equal Opportunity Disability Discrimination lawsuit filed against building owner because bathrooms were built too small, according to plans.
  - » Foundation cracks because PE provided incorrect rebar size and space for architect to use in drawings and specs.
  - » Foundation sinks because Geotechnical report listed incorrect soil bearing capacity.

### REFERENCES

Harbor Compliance: [Insurance for Architects and Engineers](#)

Note: All the top Google results are from companies selling insurance. This is a quick overview of the three main types.

Schiff Hardin Lectures: Spring 2016 Tort Law, Professional Liability Insurance: [Lecture Notes](#) & [Lecture MP3](#)

Note: Lecture is mostly about torts and possible claims/architect responsibilities

The AIA Trust: [Making the Transition to Running Your Own Firm](#)

Note: If you read this you'll know everything.

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Architect's Handbook of Professional Practice: Read Section 16.2

Professional Practice: A Guide for Turning Designs Into Buildings: pg 110-116

YOUR NOTES

# ANSWERS

# BUSINESS OPERATIONS - FINANCES

## ANSWER 1

<u>TOTAL</u> <u>TIME</u>	<u>BILLABLE</u> <u>TIME</u>
25	25
10	10
17	15
2	—
15	—
5	—
<u>6</u>	<u>—</u>
80	50

$50:80 = 62.5\%$

The 7 Key Indicators are:

- » Utilization Rate
- » Overhead Rate
- » Break-Even Rate
- » Net Multiplier
- » Profit-to-Earnings Ratio
- » Net Revenue Per Employee
- » Aged Accounts Receivable

Utilization rate is the efficiency of labor. It is the ratio of work you get paid for to all the work you actually do. This gets expressed as a percentage. Remember, ratios don't have units, they are just a comparison of numbers. We multiply a ratio by 100 to read it as a percentage. You may encounter values in one form or the other on an exam. So 1:4 is a ratio and it's equivalent to saying 25%.

From the AIA Article, high-performing firms have a total utilization ratio of about 60%. From AHPP, target for the entire firm is 60%-65% and for principals and architects it should be above 75%.

Below 60% is probably too low. I don't know if there's a too high but you can't really get to 100% and someone already above 85% might be too busy to take on new work.

Try to figure out what you actually did at work this week. I personally use Grindstone to track all my hours, and you can create reports and graphs. It's free.

See my math above for the utilization rate. I put it at 62.5%. Remember, not all work that gets billed under a project, only the amount for which you can actually charge. Stuff like admin and training don't count. Unfortunately neither does spending time on my website.



# BUSINESS OPERATIONS - INSURANCE

## ANSWER 2

	1,750,000	CLAIM
-	50,000	DEDUCTIBLE
-	950,000	REMAINING COVERAGE
	<hr/>	
	750,000	REMAINING LIABILITY
+	50,000	YOUR DEDUCTIBLE
	<hr/>	
	800,000	TOTAL YOU END UP PAYING

- » (AUTOMOBILE)
- » (GENERAL LIABILITY)
- » (EMPLOYER LIABILITY)
- » (PROFESSIONAL LIABILITY)
- » (PROFESSIONAL LIABILITY)
- » (ARCHITECT'S PROFESSIONAL LIABILITY...then insurance company may try to recoup cost from PE)
- » This last one should not fall on the Architect. Geotechnical report is provided by the owner and the Architect is allowed to rely on the owner to provide accurate information.

AIA-2017 B101 is the Owner-Architect Agreement. Article 2 Section 5 requires the following insurance types:

- » Commercial General Liability
- » Automobile Liability
- » Workers Compensation
- » Employers Liability
- » Professional Liability

See AHPP 1018 for a description of these types of insurance:

Commercial General Liability protects against events that cause harm (I am not entirely clear on the difference between Commercial General Liability and General Liability).

Automobile insurance is car insurance a company

provides for vehicles used for work trips even if they don't own the vehicle.

Worker's Comp protects employees who get injured while on the job.

Employer's Liability protects the company against claims made by employees.

Professional Liability is also known as Errors and Omissions. This is the big one, protecting against things that go wrong because of your drawings and specifications.

If you drop coverage to a lower level, and a claim is made against a project you did when you had more coverage, you **do not** get to use the higher coverage you are no longer paying. You would owe your deductible, plus any damages over your coverage limit, in this case a total of \$800,000.

