

Where the heck are you?

Q: What do you have in common with medical students and law students?

A:



Where the heck are you?

Q: What do you have in common with medical students and law students?

A: You are all enrolled in a professional school!



@#\$%*& Professors



- Professors are a **bridge** between engineering students and the engineering profession.
- Our job is to encourage, mentor, and educate motivated students who will be an **asset** to our profession.
- Our job also is to **protect** the profession from students who will be detrimental to our profession.

Bottom line—failing students will be failed.

My Scot Pollard Story

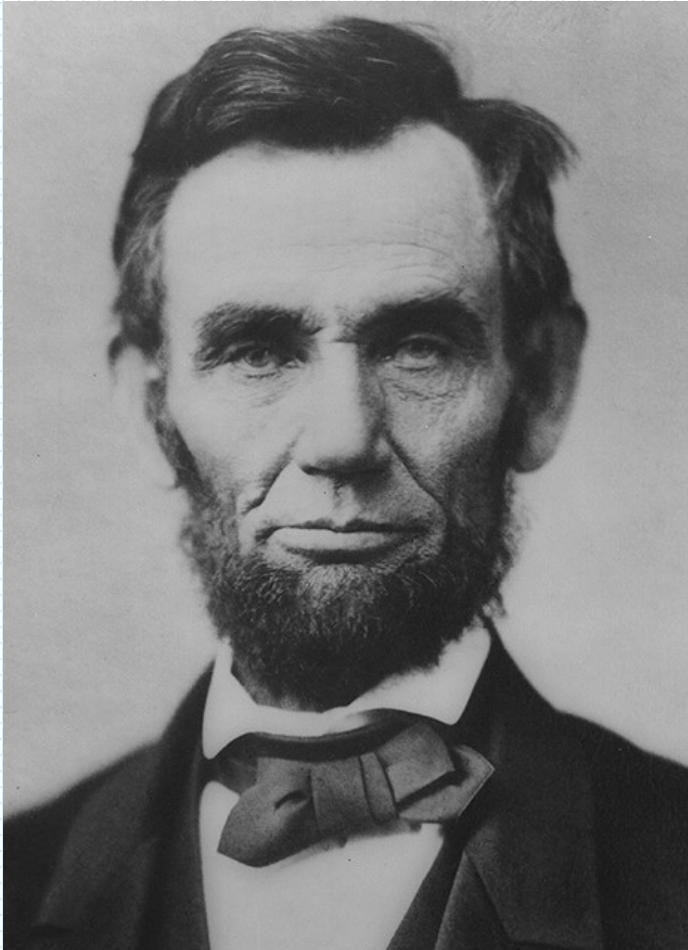


My Scot Pollard Story



- You all have tremendous ability!
- But you might not be getting tremendous results.
- Success is often the application of good habits and strategies.
- Failure is conversely the application of poor ones.

Advice from Abe



The dogmas of the
quite past are
inadequate to the
stormy present.....
.....as our case is
new, so must we
think anew, and act
anew.

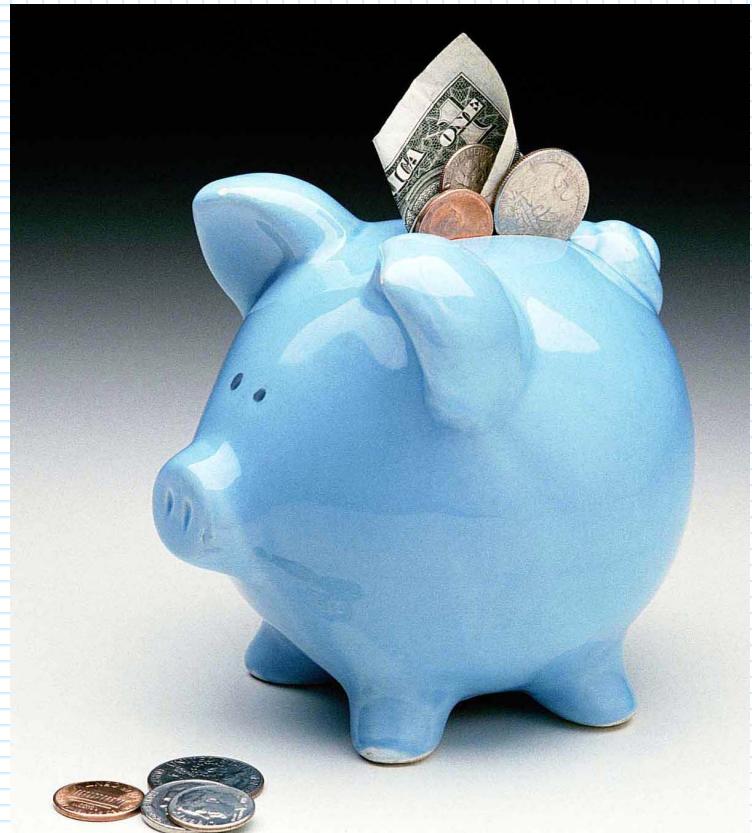
State of the Union, 1862

First or Last?



First or Last?

- Often, students spend time on scholarly pursuits after time is spent on all other priorities.
- Successful students first spend the necessary time on intellectual priorities, and then make the best of the time that's left.
- If you've ever had a **paying job**, you're familiar with this concept!



168

Activity ID	Activity Description	Early Start	Early Finish	2003	2004	2005	2006	2007	2008
+ SITE PREPARATION									
		01NOV04	31JUN04						
MAIN EXHIBITION BUILDING									
210 Drill Caissons @ Area 3	01MAY04	20JUL04							
210 Drill Caissons @ Area 2	16APR04	15JUN04							
235 FRP Slabon Foundation @ Area 3	05MAY04	07DEC04							
235 Underground Utilities In Building	05MAY04	02FEB05							
235 FRP Slabon Foundation @ Area 2	15JUN04	12AUG04							
235 Drill Caissons @ Area 1	15JUN04	10OCT04							
235 FRP Slabon Foundation @ Area 1	17AUG04	18AUG04							
235 Excavate Structural Shaft @ Area 3	05MAY04	20APR05							
235 Excavate Structural Shaft @ Areas 2, 1 & 4	05MAY04	21NOV04							
210 Drill Caissons @ Area 4	15OCT04	16MAY05							
235 Piling & Pier Slab On Deck	05DEC04	01MAY05							
235 FRP Slabon Foundation @ Area 4	16DEC04	15JUL05							
235 Spray On Protective Coating	04FEB05	05MAY05							
235 Install Mechanical Systems	05MAY04	05FEB05							
235 Install Electrical Systems	05MAY04	05FEB05							
235 Install Plumbing Systems	05MAY04	05FEB05							
235 Install Fire Protection Systems	05MAY04	05FEB05							
235 Install Etain Slat	05APR05	05FEB05							
235 Piling & Pier Slab On Grade	01MAY05	20OCT05							
210 Install Roofing	05MAY05	31OCT05							
245 Piling & Pier Topping Slab	05JUN05	05APR06							
210 Install Exterior & Enclosures	05JUN05	05JUN05							
210 Interior Fixtures	05JUN05	31OCT05							
235 Coated Paint Mechanical/Electrical Boxes	21OCT05	25SEPB05							
212 Pack List	01FEB06	31MARB06							
215 Landscaping & Streetwork	01MAY05	30NOV05							
+ EXISTING GARAGE & CONFERENCE CENTER									
	01DEC04	25JUL05							
+ PLATT FAÇADE RELOCATION									
	10OCT04	19OCT04							
+ ELEVATED SERVICE ROADWAY & LOADING DOCK PLAZA									
	05MAY04	05OCT05							
+ EXTERIOR UTILITIES									
	05JUN04	15JUN04							
+ PYLONS									
	05JUL04	14MARS05							
+ BUILDING CONTROLS CONNECTIONS									
	05FEB05	05JUN05							

Sheet 1 of 1

Q: How many hours are there in single week?

A:

168

Activity ID	Activity Description	Early Start	Early Finish	2003	2004	2005	2006	2007	2008
+ SITE PREPARATION									
		D1NOV04	D1AU004						
2104	Drill Core @ Area 3	D1WARD4	D2UL014						
2105	Drill Core @ Area 2	16AUG04	15JUN04						
2252	F/P Slab Foundation @ Area 3	D1NAV04	D1DEC04						
2253	Underground Utility In Building	D1NAV04	D2FEB05						
2254	F/P Slab Foundation @ Area 2	15JUN04	12AUG04						
2255	Drill Core @ Area 1	15OCT04	15NOV04						
2256	F/P Slab Foundation @ Area 1	17AUG04	18AUG04						
2260	Excavate Structural Steel @ Area 3	D1SEP04	20AUG05						
2261	Excavate Structural Steel @ Areas 2, 1, & 4	D1SEP04	D1NOV04						
2262	Drill Core @ Area 4	15OCT04	16NOV04						
2270	Pump & Port Setup On Deck	D1DEC04	D1WARD5						
2285	F/P Slab Foundation @ Area 4	16DEC04	15JUL05						
2287	Spray On Reporting	D1FEB05	D5MAY05						
2289	Install Mechanical Systems	D1NAV04	D5FEB05						
2291	Install Electrical Systems	D1NAV04	D5FEB05						
2292	Install Plumbing Systems	D1NAV04	D5FEB05						
2294	Install Fire Protection Systems	D1NAV04	D5FEB05						
2295	Install E&I Cables	05AUG05	01OEC05						
2298	Pump & Port Setup On Grade	D1NAV04	20OCT05						
2302	Install Roofing	D1NAV04	31OCT05						
2474	Pump & Port Topping Station	D1JUN05	D5APR06						
2515	Install Elevator & Escalator	D1JUN05	D5JUN05						
2519	Install Piping	D1JUN05	31OCT05						
2521	Coat Paint Mechanical/Electrical Boxes	21OCT05	25SEPB05						
2522	Pack Unit	D1END	D1MAR06						
2115	Landscape & Streetwork	D1MAY05	D1NOV05						
+ EXISTING GARAGE & CONFERENCE CENTER									
		D1DEC04	D2UL014						
+ PLATT FAÇADE RELOCATION									
		10OCT04	19OCT04						
+ ELEVATED SERVICE ROADWAY & LOADING DOCK PLAZA									
		D1NAV04	D3OCT05						
+ EXTERIOR UTILITIES									
		15JUN04	15JUN04						
+ PYLONS									
		15JUL05	14MARS06						
+ BUILDING CONTROLS CONNECTIONS									
		D1SER05	D1JUN06						

Sheet 1 of 1

Q: How many hours are there in single week?

A: 168!

- To take advantage of these hours, you must plan your work, and then work you plan.

Racquetball as Life



Racquetball as Life

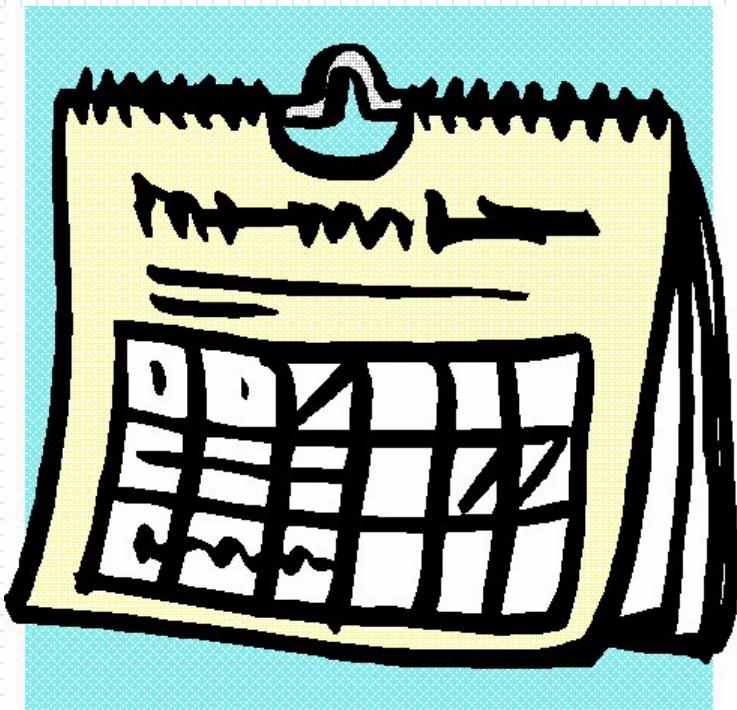


- College is a time of great opportunity—both intellectually and socially.
- There are enough hours in the week to do both—provided that you are always involved full-blast in “all one thing or all the other”.
- Putzing is the enemy of a happy college life!

The most important week of the semester

Q: Which week of the semester is most important?

A:

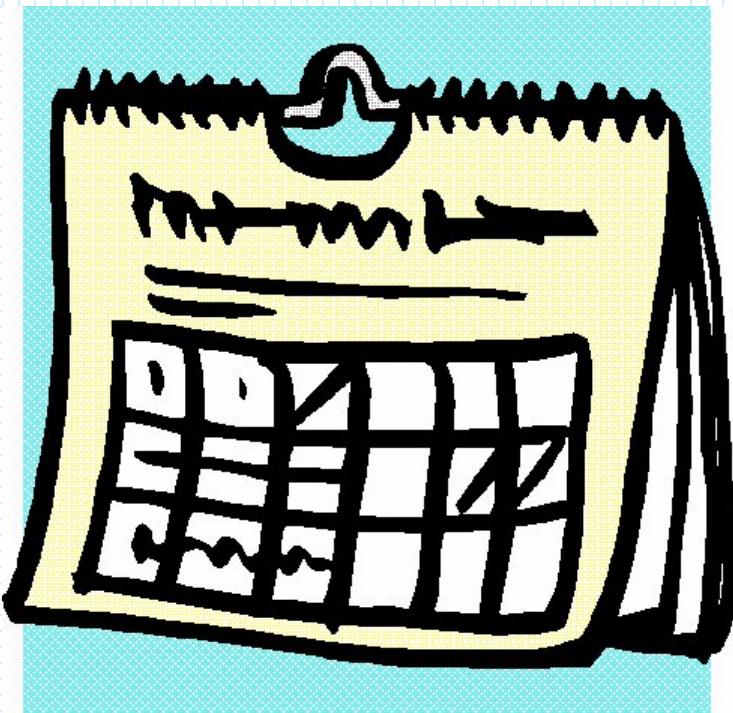


The most important week of the semester

Q: Which week of the semester is most important?

A: The first one!

- Successful students are **proactive**, whereas reactive students are prone to disappointment.
- Spend your **first** week preparing for the requirements of the **second**, and then you will be able to spend the **second** week preparing for the **third**!



Expectations



Expectations

- Computers can calculate the correct answer; it takes humans to understand why the answer is correct!
- As a professional engineer, you will be asked to solve problems for which there is currently no known answer.
- Thus, as an engineering student, you will be asked to answer questions for which you have not previously been provided with the answer!



Symbols and Enlightenment

Consider the symbols to the right.

- What do they tell you?
- What images enter your mind?
- Is there meaning obvious?

obx

cta

gdo

Symbols and Enlightenment

- Doh! I placed these symbols in an **incorrect order**.
- No matter, the symbols are the same; their order makes no difference in their meaning—or does it?

box

cat

dog

The Language of Engineering

- Mathematics is likewise expressed as a series of symbols.
 - Like any other language, the symbol order is **not arbitrary**, but rather conveys a specific physical meaning.
 - The challenge of engineering is to **understand** the physical meaning of a mathematical statement, or to **express** a physical meaning as a mathematical statement.

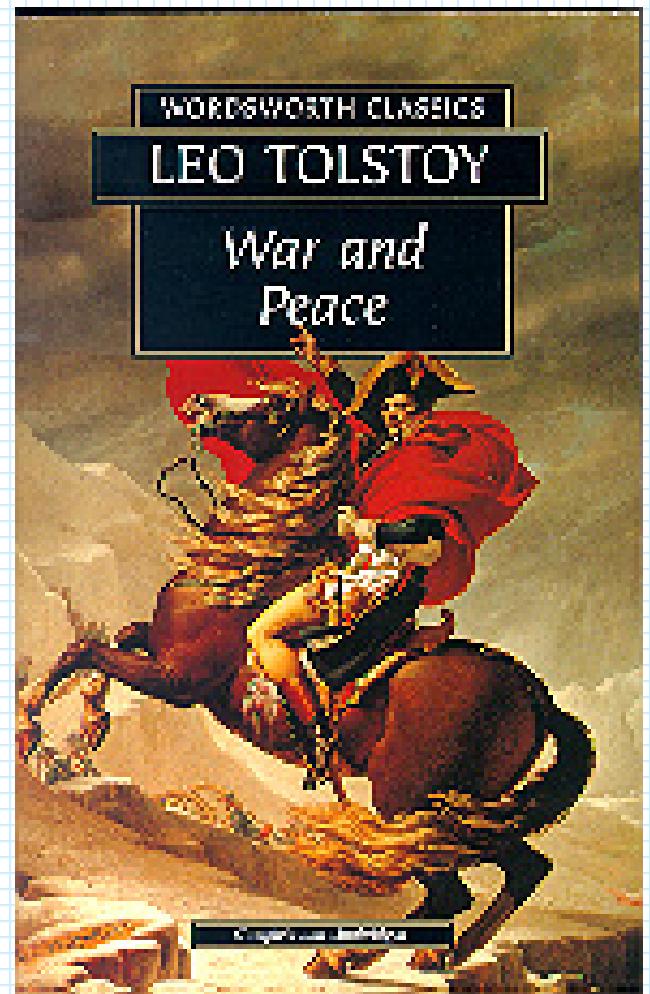
Mathematics is the unambiguous language of engineering and physics—learn to speak it!

$$\oint_C \mathbf{H}(\bar{r}) \cdot \overline{d\ell} = I$$

$$\iint_S \mathbf{D}(\bar{r}) \cdot \overline{ds} = Q$$

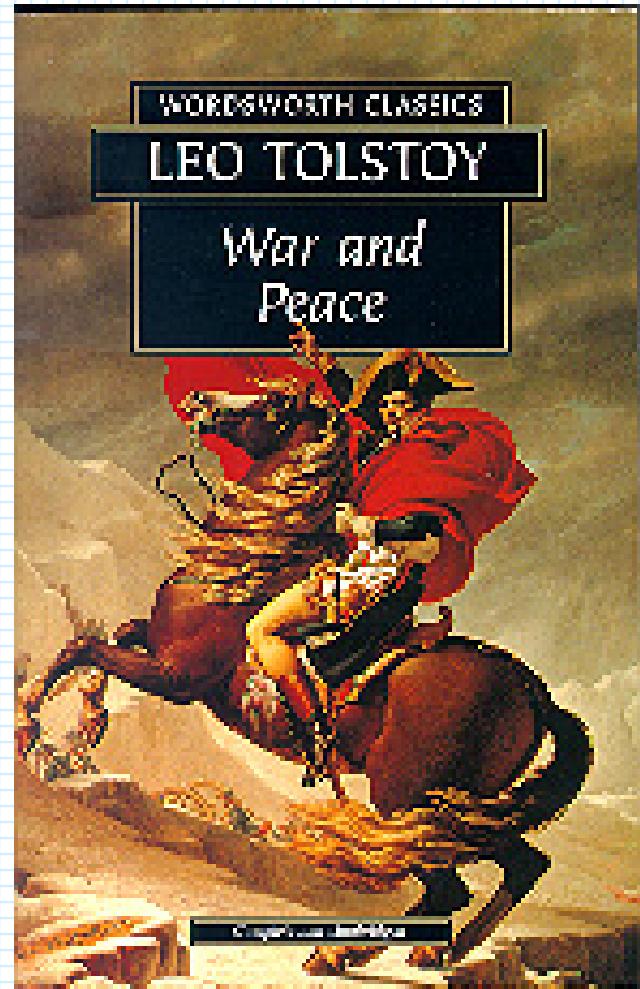
$$\nabla^2 V(\bar{r}) = -\frac{\rho_v(\bar{r})}{\epsilon_0}$$

A narrative, not a reference

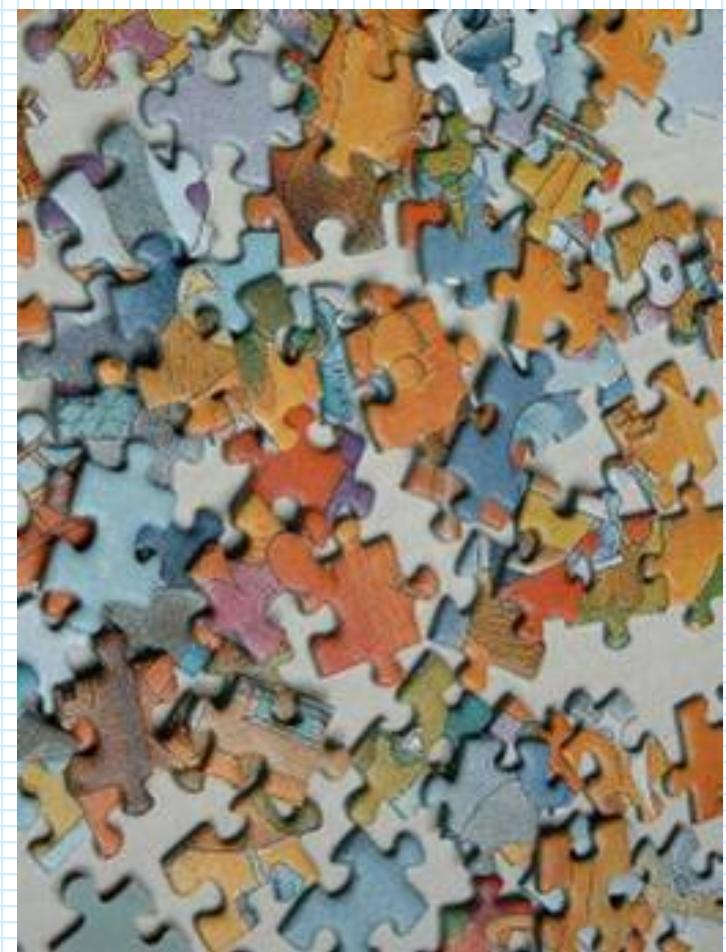


A narrative, not a reference

- Your textbook and notes provide a **continuous narrative**.
 - First: The first sentence of the first paragraph of the first page of the first section of the first chapter.
 - Second: The second sentence of the first paragraph of the first page of the first section of the first chapter.
 - Last: The last sentence of the last paragraph of the last page of the last section of the last chapter.
- Your textbook and notes are **not** the Encyclopedia Britanica, nor the Oxford English Dictionary, nor a software manual.

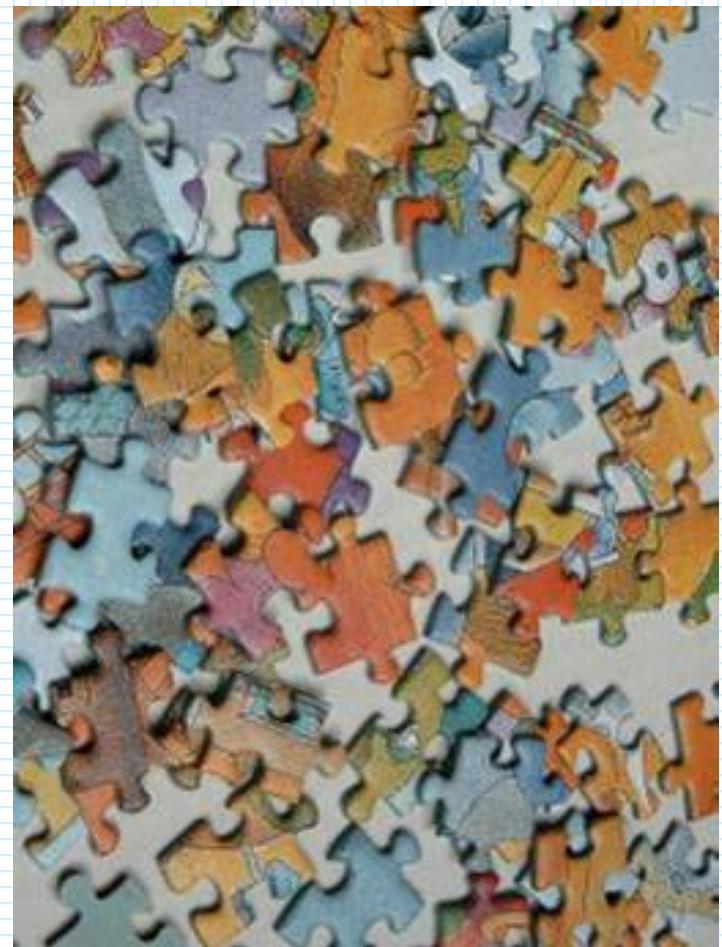


No easier than a jigsaw

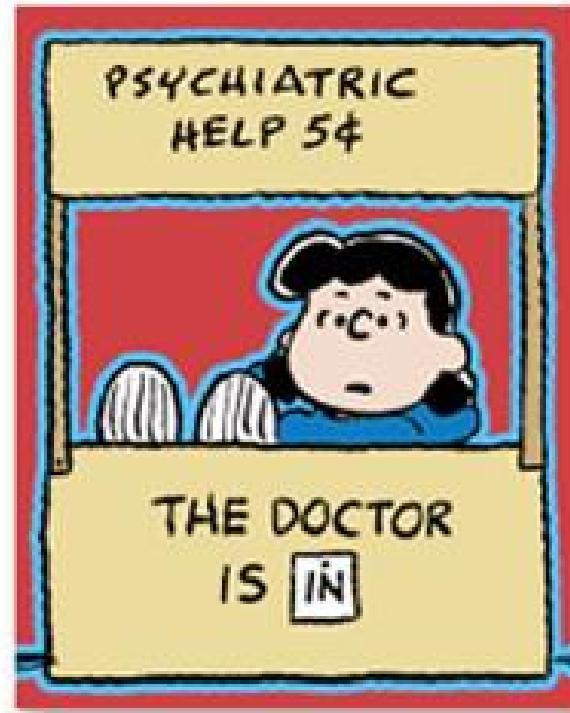


No easier than a jigsaw

- Your professor can show you each individual piece of the puzzle, but **you** must put these pieces together.
- The pieces **cannot** be put together all at once.
- The big picture is revealed only after an application of a large dollop of **persistence, patience, precision and professionalism** (the 4 killer p's)!



Efficiency

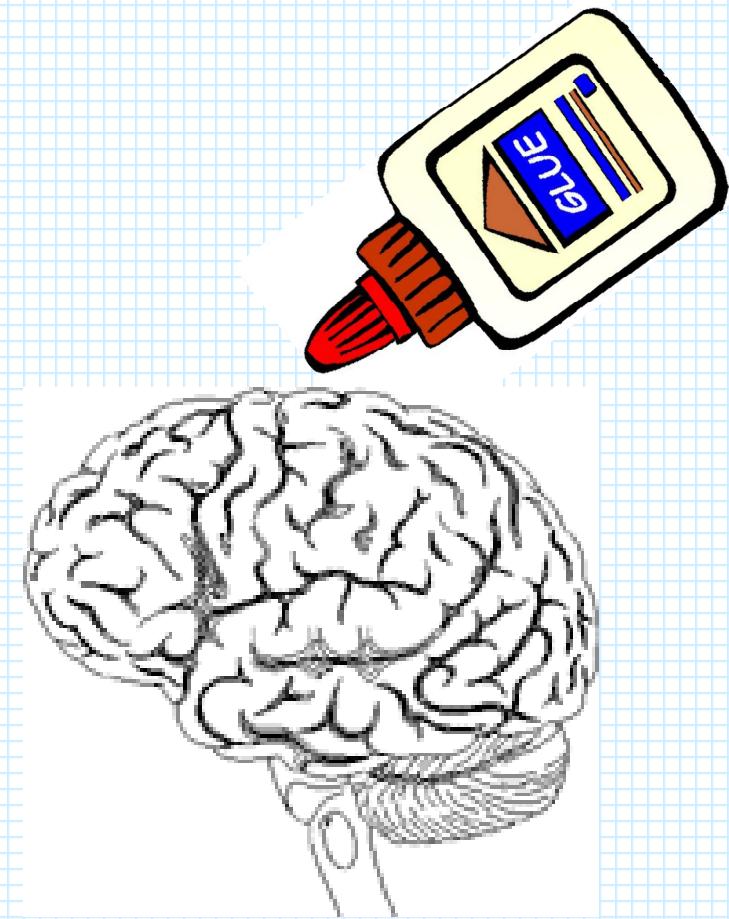


Efficiency

- Efficient and effective learning requires assistance.
- If you are struggling to understand, go get help.
- **Office hour attendance can be highly productive—provided that you arrive knowledgeable of your ignorance!**



Prepare your brain cells



Prepare your brain cells

- Come to class each day **prepared to learn.**
 - Read all material relevant to the last lecture.
 - Review the material about to be covered in the next lecture.
- I will make a **whole lot** more **sense** if you do!

