**CSE-4341 Professional Practices Test 1 Review**

* Bounded rationality: Limited thinking process
* Unbounded rationality: Rationality of connectedness. Achieved when a group of people are brainstorming.
* One must always be learning and constantly getting better, if not, you’re obsolescing yourself out of the workforce.
* 4 power bases: Positional, Charismatic, Expert, and Coercive.
* Managers handle things, Leaders take people to places they’ve never been.
* All risks are dollarized
* Types of risk: Known and knowable, Unknown and knowable, Unknown and unknowable
* To keep attention of audience, talk with rapidity of speech, volume of speech, and body posturing.
* Actively embrace the audience when presenting
* No website is actually free. Websites collect information on you that can be sold.
* Information is knowledge, knowledge is power, knowledge about you is power over you.
* Just because we can do it doesn’t mean we should do it.
* Perfection is a direction, not an option or a fork in the road. Perfection is something we strive for but is never obtainable.
* Ethics: The consideration to do the right thing. To make the decision that preserves people’s well-being and dignity.
* Fog of complexity: Makes it harder to make the ethical decision. Not knowing what the right thing to do is.
* You can be Perceived as part of the Solution and in Reality be part of the Solution, You can be Perceived as part of the Solution but in Reality be part of the Problem, You can be Perceived as part of the Problem but in Reality be part of the Solution, and you can be Perceived as part of the Problem and in Reality be part of the Problem.
* Solutions can be Unethical and Lawful and Unlawful and Ethical. Unlawful and Ethical example was speeding up and breaking speed limit to prevent crash with bus full of children. Unethical and Lawful example would be telling your boss something about the person you’re competing with for a promotion something that he/she would not like to get out.
* You’re going to be as good as you’re going to be based on what you know and your support network.
* Civilization is a fragile child. Doesn’t take much to destroy civilization. Civilization provides
* Business is a Darwinian Environment
* When you become employed for a business, you have to assume it is in concert with the common law.
* If you a part of the problem, you can’t be all that you can be. Be part of the solution, not part of the problem.
* Ethics is internal, not external.
* Voting with your feet: If you don’t agree with something, you can not attend or leave. Examples would be quitting a job if you feel they are making you do something unethical, or Professor Cross’ example of not going to art museum of artist he found was controversial.
* Add value above and beyond the cost of employment that the company is paying you.
* Car salesman hate engineers, they ask a lot of questions. Ask a lot of questions, its good.
* Negative Right: Something the government can’t do to you. Example would be the government can’t infringe upon your rights of Life, Liberty, or Pursuit of Happiness.
* Technology advances much more rapidly that the law. The law must catch up to new technology. Ethics fills the gap.
* Ripple effect: The impact of the pebble on the water will send waves outwards. What you do in the workforce will be the pebble hitting the water and the effects of what you do will be the waves that effect the people.
* Liable: Anything said or done to prevent you or your family to make a living or provide.
* Utility: Something that adds to the ease of life
* Chilling Effect: Something that stunts or slows down the thinking process. For example, censoring or destroying artwork will have a chilling effect on people’s creativity.
* MAD: Mutually Assured Destruction. Don’t escalate situations, it will lead to MAD.
* Problems usually work themselves out in our government
* Rule of Law: a social contract, something that most people agree on.
* Common good: Utilities like running water, electricity, plumbing, etc.
* Video game industry developed rating system so government wouldn’t get involved, when government isn’t involved, processes are easier and quicker.
* “Time is money” – Benjamin Franklin
* Don’t use people as a means to an end, it will only get you as far as that end, no further.
* When you start to get emotional, get up and take a walk and cool down.
* Provocative speech is not protected under first amendment, invoking people to commit violence is against the law.
* Yelling fire in crowded theater or bomb on a plane is not protected under first amendment, may cause harm to people.
* Watch Dogs: people that look out for the wellbeing of the community.
* If you allow people to break social contracts, you will create a Favored Few, which leads to a rule by a Favored Few.
* Our government is by the people for the people, not by the few for the few or by the one for the one.
* Anonymity is a shield from the tyranny of the majority.
* Chilling effect usually deals with the minority.
* Impact = Probability of risk happening \* The cost of the risk
* Work packages: Requirements (What needs to get done), Budget (How many hours to complete a task), Schedule (How many hours per week/day)
* Cost, technical, schedule? (Not sure what this is from, maybe same as above?)
* Re-identification: process by which anonymized personal data is matched with its true owner.

**CSE-4341 Professional Practices Test 2 Review**

* A work or invention that is the result of creativity to which one has rights for a copyright, trademark, patent, or trade secret.
* Intellectual property is how you monetize ideas. “Riches in the niches”
* Monetize: Extract value from something.
* Sunk cost: cost that has already been incurred and cannot be recovered.
* Intellectual property is how you get all the rewards and profits from the hard work of creating something. Ensures that no one will profit from your work and prevents government from taking it.
* A reason for Africa not being technologically advanced is lack of protection of intellectual property.
* A big dispute between US and China is China’s lack of respect for US intellectual property.
* Types of communication: Body talk, Body language, listening
* Not producing quality work stains your reputation and the company’s
* Why not defend a patent? The cost of defending it would be greater than the money lost of someone using it. This happens with obsolescing products.
* Disruptive technology: Something that prevents competition from rolling out new innovations and technology so that a company can gain a competitive edge or get caught up or something that obsoletes existing technologies in same field.
* Looking at someone’s computer without their permission is a form of hacking
* Hacking uses resources by you and the company of the application. Hacking makes companies use resources that could be otherwise be spent developing new products.
* When you cease to think critically, you act emotionally.
* My rights end where your rights begin.
* Hacking is a form of trespassing.
* You cannot comingle material from one contract and use it another contract.
* When you make a statement like “Try to hack my system, it’s unhackable”, that is an invitation. If you are hacked, it would not be considered hacking.
* White hat hackers: User their skills to find and improve vulnerabilities.
* Black hat hackers: User their skills to cause harm and for personal gain.
* Grey hat hackers: Same as white hat hackers but grey hat hackers don’t have permission to hack systems.
* Countermeasures: Actions taken when new tools are created that criminals can use to prevent them from doing harm.
* Opportunity is opposite of risk
* Work hard at working hard to add value
* Communicate concisely and precisely without ambiguity
* Outsourcing is local, pay another company to do a service.
* Stock is given to employees as reward for adding value
* Duchess Anne Hamilton was one of largest investors in Edinburgh
* Victoria Woodhull became first woman to run for President of United States in 1872 for Equal Rights Party
* Agnes Campbell ran a successful printing business in 1690s
* Jean Wemyss ran successful pipe making business in Scotland in 1690s and early 1700s
* Emma Willard was American women’s rights activist who dedicated her life to education.
* Catherine the Great was Russia’s longest ruling female leader (1762-1796)
* Intellectual capital: Knowledge of employees on how to do the job
* Machines lack qualities that people bring to a job:ambition, judgement, adaptability
* Emotional IQ: Ability to work with other people, ability to connect and interact with people.
* Adding more people to a late program usually makes it later, exception is adding a member of the A-team
* Metrics: Measurements taken to know if a job is being done correctly and if the job is done
* Defect closure rate and defect opening rate are software metrics
* If defect opening rate is larger than defect closure rate, job will never finish
* Companies can grow organically and inorganically
* Organically: Improving the product that is being produced and sold
* Inorganically:Acquiring new assets (like buying out companies) to solve future problems
* Rack and stack: Rate people based on value they add to the company
* Cure notice:Given to an employee to inform them that they need to do a better job, or their employment will be terminated.
* Ability for company to thrive in recession speaks to how well off a company is
* Lifeboat: Companies put their best employees and employees they can’t afford to lose in the “lifeboat” during a downturn or recession. Employees in lifeboat will not be laid off
* Commercial off the Shelf (COTS): Something a company didn’t develop, cheaper to buy it than to develop it
* When creating a scenario, it is important to create it with high fidelity (close to real thing)
* Negative training: You become less capable after training than you did going in
* Ask the question “Why?” three times minimally to get to the root of doing something.
* Heuristic Concepts: Can’t touch, feel, or sense them in any way, you can only experience the effects of them. Example would be love.
* Digital Divide:Technology only available to a certain financial class of people.Example would be a certain technology only affordable by middle class and up and would not be affordable to lower class people.
* Benign environment:A non-threatening environment for a certain technology. For computer, room temperature with low to no vibrations
* Luddite:People in 1800s that said there is nothing good that can come from technology
* Neo-luddite: Technology is latest, but in many ways worse stage in decline in human society
* Competition for scarce recourses causes conflict
* No risk, no gain
* Therac-25: Radiation machine that had software defect that would sometimes give radiation doses hundreds of times greater than normal.
* Nothing wrong with asking for help and clarity
* Mistakes happen because of: Error, Complexity of issue, Incompetency
* People will eventually promote to a position of incompetency
* Punitive costs: Additional costs a person or company has to pay to make an example of them so other people or companies will not preform similar actions
* After Action Review (AAR):Review to see what developers did well on a product and what they didn’t do well
* Capability Maturity Model Integration (CMMI): Process model that provides a clear definition of what an organization should do to promote the behaviors that lead to improved performance.
* If you get comfortable, you get careless, if you get careless, mistakes happen
* Validation: Building the right product
* Verification: Building the product right
* Intrapreneur:Someone who innovates inside a company
* Founder syndrome: Someone who creates a company and it makes money and refuses to take it to the next level
* Collaborate, negotiate, facilitate

**Copyright Diagram**

**$$$**

**SOMEONE  
ELSE**

**$$$**

**WORK**

**CR**

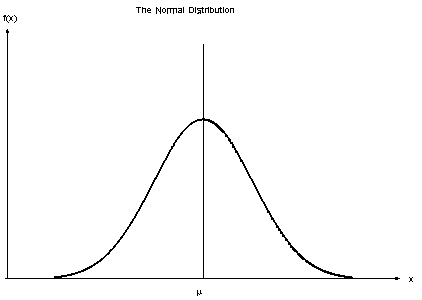
**YOU**

**Spectrum of Respect**

**Complete Respect**

**Complete Lack of Respect**

**Gaussian Distribution**



**EXTREME**

**EXTREME**

Delivery

Rework

P/F

Test

Build

A

T

X

F

Y

I

Backlog

Rework erodes profit

If X > Y, you’re going to deliver to customer, Y becomes null, If Y > X, your never going to deliver to customer

Optimal

LTL

UTL

UTL: Upper threshold  
 LTL: Lower threshold

In between UTL and LTL, you are in control, outside the thresholds, you are no longer in control.

10%

45%

30%

1-2%

13%-14%

Exceed expectations alot Tier 1

Exceed expectations Tier 2

Meet expectations Tier 3

Tier 4

Sometimes does not meet  
expectations

\*Colors have no meaning just wanted to differentiate tiers

Level

1 **Salary Bonds**

2

3

4

HW Engr 5 Level 5 salary of HW Engr is around where SE Engr salary starts

Level

1

2

3 System Engineers have highest salary

4

SW Engr 5

Level

1

2

3

4

SE Engr 5

80 SW Engr

You will move up more slowly after the mid-pont

70

If you do your job well, you will quickly move to mid-point  
60

Companies want to pay you at the mid point

Technologies that don’t make it to market

Valley of Death

Create and capture value

Business Model

Commercial Product

Technology

Money Making Machine?

#2

Profit

Capatalistic Machine

Invest

$$

$$

Profit