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Engineering Ethics

by

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COURSE DESCRIPTION & INTRODUCTION

The intent of this course is to satisfy the Continuing Education course on ethics for license renewals. All engineering professionals have a duty to protect the health, safety, and welfare of the public. This is stated as the first canon of the National Society of Professional Engineers (NSPE). See their website at <https://www.nspe.org/resources/ethics/code-ethics>. This course will discuss some of the areas in which ethics impacts a professional career. And, if you are a Federal employee, Executive Order 12674 and 5 CFR 2635 spell out the additional requirements for you. Obviously, State and Local agencies have their own requirements for their employees.

Why Ethics?

A good reason for an annual course in ethics is to satisfy the requirement to complete a Continuing Education course in ethics for the state or states in which we are licensed. The best reason is to keep us and the public out of trouble. But is this even necessary? Can you recall any ethical violations occurring in the past year from coworkers, other professionals, public officials, or even politicians? When you think about the recent pandemic and public officials, how many of them issued public health mandates but were caught violating their own mandates? Did you get upset regarding the ethical violations or did it bother you at all? Would those officials be willing to pardon you for doing the same thing that they did themselves? Will you vote to re-elect them or vote to replace them?

Does this seem extreme to even mention in a course about ethics? If so, at what point does a person's ethics end? Can you define that point? Do you know anyone that has reached that point? Are you at that point?

Introduction

The Merriam-Webster Dictionary (www.merriam-webster.com/dictionary/ethics) defines ethics as “the discipline dealing with what is good and bad and with moral duty and obligation”. Sounds simple enough, right? Or, is it?



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Now thinking back over the past year, how many times did you discuss ethics...with anyone? Once, twice... never? Why aren't we all talking about ethics more? If you were not required to take a course in ethics this year, would you be taking this course now? Probably not.

If you consider yourself to be an ethical person, why would you take a course on ethics? If you do not consider yourself to be an ethical person, why would you take a course on ethics... excluding the fact that you want to keep your license? Well, then, let's take this opportunity to discuss ethics now.

What happens if you learn a new skill but never use it? Obviously, you lose that skill whether it be a new language, or calculus, or flying a plane, or any other skill. If no one ever talks about ethics, reads about it, discusses it, argues about it, or fights about it... how long before it just disappears? Why be bothered with ethics if no one cares?

But, wait. Don't you care? Would it bother you if you took your car in for an oil change, waited for an hour for it to be serviced, paid for it, then later found out that you still had the old oil filter installed and the oil was black? Would that bother you? So, do you care about others' ethics only when it impacts you negatively?

Whom in your professional work environment do you encounter that is bound by ethics? Do your clients act ethically? What about your coworkers and supervisors? Do ethics matter to the attorneys and regulators you work with or for? Have you observed examples of unethical conduct in any of them?

Considering your own actions, has anyone seen any possible examples of unethical conduct in you? Have you rationalized your personal actions as being excusable since you have seen others doing the same thing? Would they reach the same ethical conclusion as you?



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ETHICS FOR PROFESSIONALS

Let's take a trip back in time... back to when you were completing your course requirements to graduate from a university or college. How many Ethics courses were you required to complete before you graduated? Three, two, one, or none at all? Was engineering ethics ever discussed before you graduated? If you were not taught ethics in your required courses, how did you learn about ethics?

So... where were you first taught about ethics? I'm guessing it was not at your high school. Or maybe you did a tour in the military where you would have heard a lot about it. Or was it after you got your first job? Then again, was your first course due to the ethics requirement by your state's licensing board for continuing education?

Jump forward in time a bit to when you were applying for your first engineering job. During interviews for your first job, were you questioned about your ethics? Were you informed of the company policy concerning ethics during the interview? If the interviewers did not mention it, did you ask them about the company's ethics policy? Do you think now that they should have discussed the company's policy? Or, perhaps, your focus was on 'impressing' the interviewers so much so that you never thought about their ethics policies. As an interviewee at that time, would the company not having an ethics policy have concerned you? After all, would you have wanted to work at a company whose only concern was making money?

Let's jump forward a bit more to a time as an engineering intern. You are working under a Professional Engineer with a team of coworkers. Did your Project Manager discuss with you his concern about ethics? Or did your coworkers discuss it with you to make sure you were someone they could trust and rely on? Did they mention anything about a recurring annual discussion on ethics or a required company training requirement on ethics for all of the employees? During this time as an intern, did you observe any unethical actions that surprised or bothered you? Did you mention it to anyone... the Project Manager, a coworker, the HR Manager, anyone? What were the office's repercussions for ethical violations?

Jumping forward again... you are now a licensed Professional Engineer. With many years of training and experience behind you, are you concerned about the ethics of your design team or of the company? Do you set the standard for the ethics you expect from



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your team of designers and drafters? Have you ever discussed ethics with your team and any ethical expectations from them? If not, are you simply hoping they really are ethical and that they won't cause harm to your professional license? If you have discussed your ethical requirements, how often do you discuss them? When doing the yearly evaluations with your staff, do you include a discussion of ethics with each one... each year?

Jumping ahead again... You are now an engineering department head at a large engineering firm. You have a staff of professional engineers of which some have years of experience, while others have recently been promoted to project managers. This firm has a lot of people with varying backgrounds, but you have found no formal ethics training exists. Do you maintain the status quo or do you introduce a formal training requirement? How do you proceed? A good place to start is by presenting the risk and liability of ethical violations to the firm, which ultimately will impact everyone in the company. Think about the fallout from the loss of projects, loss of licenses, loss of income, loss of employees, and the impact of a poor reputation for the company that might make it harder for you to be hired by other companies in the area.

ETHICS AND CONDUCT

Do not let any client, deadline, budget, or any other factor negatively impact your choices when it comes to your professional conduct. Remember, we all must maintain the respect of our peers and the public with each of our jobs and do so ethically, properly, and honestly. Our reputations can be damaged much more quickly than they can ever be restored. Before you even start considering this possibility, check with your state's licensing board for their latest results concerning ethical violations in your state. If your license is pulled by your state because of an ethical violation, consider the impact to your livelihood. Would you simply move to another state where you already have a license? Probably not, since most states require a license to be revoked if you lose your license in a different state.

And finally, if you have not read your state's definitions and requirements for ethics recently, you should. The time you spend becoming familiar with the state's requirements where you are licensed may save you, your license, and your career.



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Ethics involves developing a reputation based on character, honor, and integrity in the community. It requires being honest with your boss, your client, your coworkers, and everyone else. Remember, a good reputation is not quickly or easily established, but it can be suddenly questioned or ruined...whether you're innocent or not!

The question is not “What reputation do you want”? Obviously, everyone ‘wants’ a good reputation. The real question is “What reputation will you have?”

SITUATIONAL ETHICS

Below are a few fictional situations for consideration. Read them and think about how you would handle each situation.

Situation 1 - You are directed by Bob, your supervisor, to do something you know is not ethical. What will you do?

1. Will you comply and do what you are told?
2. Will you question Bob’s directions and motivations before deciding?
3. Will you ignore Bob’s directions and simply refuse?
4. Will you report the issue to your HR representative and request assistance?

The action Bob has directed you to undertake is not defined above, but it provides a hypothetical ethical situation you might encounter. We sometimes find ourselves in complex situations and struggle with making the right choices. Regardless, often an HR representative can provide some assistance and guidance.

Situation 2 – You are asked by Abbey, a land developer, to quickly certify some construction inspections that you did not perform in order to obtain her as a client. She is a client that your company has been seeking for years, and many believe her business would be a great win. What options do you have?

1. Just do it and hope it is not a mistake that costs you.
2. Look surprised before asking her “Is this supposed to be a test of my ethics?”
3. Sarcastically say “So you want me to do something illegal, potentially lose my license, and risk my job and career just so you can save a few bucks?”



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4. Politely refuse, end the conversation, and simply walk away.

So which option would you choose? After all, if she is asking you to do something illegal, do you really want to work for her? What happens if she ever refuses to pay you for your work? Are you really going to report her and then have her divulge what you did to get her work? Remember, she has your certifications in writing!

Situation 3 – Seth, a draftsman on the design team, proudly inserts a construction detail for your current project that he saw on another engineer's plans. He then informs you that he saved so much time by not having to “reinvent the wheel”.

What will you do?

1. Tell Seth what a great job he is doing and that he deserves a raise.
2. Inform your HR department and let them deal with it.
3. Call him into your office for a discreet conversation about ethics and the potential impacts to you and the company for intellectual theft and unethical conduct.
4. Fire him on the spot for trying to sabotage the project.

Obviously, this could be a perfect opportunity for a teaching moment with Seth and the rest of the design team. If you want the entire team (and company) to understand what is expected of them without any confusion, call a team meeting and discuss it with all. Then, end the meeting with a challenge for all to work ethically and honestly.

Situation 4 – April has been developing a new marketing brochure for the company and has submitted the draft brochures to management for review. The brochures look really great and everyone is congratulating her. You finally get a chance to see what everyone else is talking about, but something seems familiar about the brochure. You pull out an engineering article from a few months ago and find that April has inserted some language directly from that article. You consider some options...

1. Do you confront her about plagiarism or using copyrighted material?
2. Do you inform management of what April did and let them decide?
3. Since everyone loved her work, do you let April decide how to handle the brochure and avoid getting involved at all?
4. Do you question April to determine if she's familiar with copyright laws and the risk the company would have? Do you discuss what steps she needs to take to correct the brochure?



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A good Project Manager will look out for the best interest of others... the client, the company/agency, and the staff. Since you are a good Project Manager... you are, right?... you may want to encourage your coworkers to challenge others in the company whenever a possible ethics issue develops. The goal is to prevent everyone in the company or agency from approaching a possible ethics issue or even the appearance of an ethical violation.

Ethics require us to be honest in our interactions with everyone... our co-workers, our staff, clients, regulatory agencies, and the public. As engineering professionals, we are charged with protecting the public's safety and health without causing harm to others.

Before we make a questionable choice, we should always ask:

- 1) Am I qualified for this?
- 2) Can I do this legally and ethically?
- 3) Could someone be harmed if I do this?

Let's briefly look at some additional ethical requirements you must be aware of...

Fraud and corruption: Reporting instances of fraud and corruption whenever and wherever we encounter them is mandatory. We should report these instances to our company's HR representative or our agency's ethics counselor.

Conflicts of Interest: A conflict of interest is when your own personal interests or personal connections may interfere with the responsibilities or obligations of your job. The laws and rules are very broad concerning conflicts of interest, but basically boil down to your final actions or decisions... even if your involvement began with the best of intentions. If you are doing something that will benefit you, your family, your friends, or your associates, even though it conflicts with the best interests of those you are representing, it is a conflict of interest.

Public sector employees are further prohibited from being involved in situations in which their official actions will result in a direct or positive impact for the employee. Bottom line, do not get involved with anything in which you have a financial interest, including



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those of a partner or a family member. Being a member in certain organizations may be enough to prohibit your official involvement in the situation, and it must be reported.

Preferential Treatment: As professionals, you are to deal impartially with all people, organizations, and companies. For the general public, perception is reality. Preferential treatment restrictions extend to family members, business associates, companies in which you hold a financial interest, and some groups or organizations.

Prohibited gifts: Gifts intended to influence you on behalf of the one providing the gift is a prohibited gift. A gift does not need to be extravagant to be prohibited. A gift may be money, meals, merchandise, equipment, food, private trips or events, and more... Even if it seems innocent, a negative perception may still arise among your co-workers or anyone who happens to observe the gift.

Regulations: Each state has its own regulations concerning the conduct of licensed professionals. Just because your primary state defines an activity as permissible does not mean another state where you are registered will permit that same activity. Do not make assumptions when it comes to your license.

Confidential Information: State and federal regulations also prohibit using confidential information to benefit you, your family, or friends. As a professional, many meetings you attend may contain information that is confidential and may not be distributed to the public.

Abuse of Personnel: In all of your dealings with people, whether they be co-workers, staff, public officials, or commercial employees, treat them with respect and intervene when necessary or report any observations of personnel abuse. Instances of abuse should not be allowed to go unchecked anywhere.

SUMMARY

This course should remind you of what you already know and encourage you to practice ethics each and every day. Always remember that ethics is not something that you turn on or off depending on the situation, time, location, or how you feel. Use every opportunity to mentor your staff in ethical behavior.



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Ethics is not just for professionals, but it is applicable to everyone. Does your office have a written policy on ethics? Does your office have in-office training/discussions on ethics? Did you answer "Yes" to both of these questions? If not, what are you going to do about it?

Remember: Just do what is right and ethical for everyone, and you should not have a problem.