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Engineering and Business Ethics - A Biblical Perspective

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Course Content

Introduction

Engineers are part of an applied science field. Engineers rely on certainties in the performance of their work, linked to scientific fact or well-developed and accepted theorem. Pipes are sized based on known resistance factors; air/moisture combinations are reflected on Psychrometric charts; beams are sized based on known structural criteria. It almost seems to be part of an engineer's nature to appreciate clear and verifiable facts. However, when it comes to Engineering Ethics, the sources of the premises are less clear, although most would agree on generally accepted rules of Ethics. When one explores the underlying premises of ethics, a person can easily get lost in the plethora of philosophical terms such as Consequentialism, Utilitarianism, Egoism, etc.

People of faith draw their source of ethics from their core beliefs. Ethicists will tell you that the highest form of ethical behavior is when one acts from an inner and intrinsic motivation. Much of Western culture and laws derive their state from Jewish and Christian tradition, as rooted in the Bible. Much of what we consider acceptable and appropriate ethical behavior finds its historical roots in Scripture. That being said, this course does not make the case that only believers in this tradition are ethical, but rather presents the historical framework that is derived from the Christian tradition.

This course explores the Biblical perspective of ethics. Not an evangelical discourse, this is a study of ethics from a Biblical point of view, drawing on the Instructor's considerable training and experience in engineering, business, and theology (the Instructor is a graduate of engineering, business, and theological programs of study with a terminal Doctorate in Biblical Studies). We will confine our discussion to the context of the course, and will not explore the teachings of other religions and belief systems nor make relative judgments of other traditions. In addition, the course provides its material in a current and respected philosophical framework.

Ethical Philosophy

Biblical ethics is not that different from secular ethics in its fundamental definition. Ethics is essentially involved with right and wrong behavior. However, the source of premises is different – Biblical ethics derives its source from the Bible, while secular ethics must necessarily derive its source from contemporary social and political debate. Within Biblical studies, there is a distinction between the study of theology (systematic theology) and Biblical ethics. Systematic theology teaches us “what to believe and know,” while Biblical ethics emphasizes what we are to do as well as the proper attitude.ⁱ This course is not a Theological discourse but focuses on the latter.

Business Ethics, and thus Engineering Ethics, are generally within the category of what Philosophers term “Normative Ethics,” which involve classifying actions as right or wrong. Some describe Normative Ethics as the behavior to which society *should* subscribe. Less commonly discussed as part of Business Ethics (and perhaps more perplexing to the quantitative individual) are Methethics, which explore ethical foundation and usage. A third category is Descriptive Ethics, which provides facts and statistics (some describe as what society accepts as being ethical.) Depending on which philosopher or reference to which you adhere, the descriptions of these categories might be addressed somewhat differently but remain generally within the pale of the debate. For ease of study, this course addresses Biblical ethics within these frameworks to better organize the concepts and to facilitate our study. Other frameworks could have been selected and have merit for study, but the one used herein offers a logical approach.

Biblical ethics include and address Normative Ethics and Methaethics (although not by name). As well, Descriptive Ethics are addressed through Biblical accounts of real people and general acceptance of the Biblical ethical principles historically by society (albeit not always with awareness as to the Biblical roots.). However, we will focus primarily on Normative Ethics, although we must begin with an introduction of Metaethical Biblical aspects, which explore the foundations and usage of Biblical ethics and further establishes it as being academically legitimate.

Biblical Metaethics

As noted above, the field of Metaethics is not as concerned with what is right or wrong, good or evil, but the foundation and usage of the concepts of ethics. This section introduces metaethical considerations related to Biblical premises. Although the purpose of this course is not to convince the reader that Biblical premises are legitimate (the responsibility of apologetics), this section is

included to offer an overview of an ongoing debate and to establish its legitimacy within the academy (i.e. worthy of academic and intellectual pursuit.)

Metaethics would ask, in part, “What is the foundation of Biblical ethics? Are these objective? How are they used?” To begin with, what is the ultimate source of the premises within this framework?”

According to historical Judaism and Christianity (that is generally within accepted orthodoxy), the ultimate source of truth is found in a monotheistic God. This God, orthodoxy teaches, revealed Himself through various means and forms (nature, the prophets, and according to Christianity in Jesus). For many believers, the most tangible revelation (and even the only finally authoritative source) from God is found in the Bible. But is this a legitimate source of our premises? Many believe so, and accept with faith the Bible’s self-claim that it is “inspired.” The original word for “inspired” (from the Greek) is a combination of two other words, the first of which is “God,” and the other is “breath.” The idea presented here is that the words, although penned through inspired human instruments, were those of God. Therefore, many believe on a basis of faith supported by apologetics that the teachings of Scripture are in fact sourced through God and provide sufficient premises. This belief is a source of comfort for many, and was simply accepted as true by those of influence in society throughout history. (Example – “We hold these truths as being self evident . . .”) In addition, this view finds its place within the realm of intellectual philosophical debate and discourse.

For example, Cornelius Van Til created a philosophical and ethical system based on Kuyperian presuppositionalism.ⁱⁱ Van Til argued that all purely human philosophical reasoning is circular. Deductive logic mandates that all arguments must begin with a premise, or something accepted to be true. Til held that any argument outside the bounds of Scripture must necessarily begin with a premise that cannot be proven, so one can never be absolutely certain as to the validity of an argument. Van Till held that Biblical presuppositions are truth since they are find their source from God, and any other cannot be relied on due to the sinful nature of fallen man (resulting from original sin or the fall of the first man Adam). He concluded that any premise other than that coming from God must necessarily and erroneously assume human reasoning is sufficient. And, any argument to further prove the initial premise would require other unprovable premises. The obvious conclusion (based on his argument) is that circular reasoning will continue, since it is a consequence of an imperfect mind. As only God has a perfect mind, Van Til believed, only His premises are reliable.

Van Til's system of ethics concludes in part that rational arguments are not needed to prove the truth of the Bible. Although he concurred that there is a place for apologetics, he believed that proving the efficacy and validity of Scripture should not be within the sphere of ethical arguments. That is, not believing the Bible to be true is outside the bounds of philosophy and is instead in the realm of morality. In essence, belief would precede philosophical debate in this system of ethics. Much earlier, St. Anselm expressed similar sentiments when he wrote, "I seek not to understand in order that I may believe; but I believe in order that I may understand, for I believe for this reason: that unless I believe, I cannot understand."ⁱⁱⁱ For him, belief was necessary prior to achieving higher understanding which is quite different than contemporary thought (that is, knowledge must precede belief.)

Like Til, many people of faith struggle with philosophical systems that do not include the necessary influence of a Creator. For example, the reformer John Calvin taught that people begin in an unregenerate state and are depraved. That is, without the intervention of God, they are incapable of finding the true God nor have any real interest in doing so. This chain of reasoning would conclude that such a person would necessarily be left to his or her own devices and at best would stumble on the truth (albeit such truth would remain unprovable in such a state of unbelief and lack of awareness) and the individual and his/her beliefs would be virtually autonomous. Even Charles Darwin expressed similar concern; "The horrid doubt always arises whether the convictions of man's mind, which has developed from the mind of lower animals, are of any value or at all trustworthy. Would anyone trust the convictions of a monkey's mind, if there are any convictions in such a mind?"^{iv}

Schaeffer took it a step further when he wrote, "You must understand that those in our present material-energy, chance oriented generation have no reason to obey the state except that the state has the guns and has the patronage. That is the only reason they have for obeying the state. A material-energy, chance orientation gives no base, no reason-, except force and patronage, as to why citizens should obey the state."^v Contemporary ethics courses, if taught well, will teach that the best form of ethical response should be a result of one's values, and not fear of reprisal from the state. Yet, systems of ethics that do not have a metaethical source accepted are subject to the mere whims of the beholder. Historically, Western culture has found its roots for Ethical belief in the Bible.

In summary, there is a robust debate as to whether the Bible should be held as the defining source for ethics (et al), other religious sources, collective religious sources, or philosophy itself – such a debate is outside the scope of this course. The above presents only a brief introduction to the

metaethical considerations and discussions related to this. It is not the Instructor's role to convince the student in matters of personal faith. As well, this course attempts to avoid arguable matters that stimulate ecclesiastical separation as much as possible. There are as many differing beliefs as there are people. However, it is necessary to present the actual underpinnings to effectively relay a proper understanding of Biblical ethics. Even those from other traditions (theological implications notwithstanding) should find that most if not all of the Ethical principles presented heretofore are widely accepted as being legitimate, as well as recognized as supporting business success experientially.

Biblical Normative Ethics – An Introduction and Historical Context

Normative Ethics prescribe value judgments with actions. That is, right/wrong, good/evil, and appropriate actions are described. Obviously, the Bible addresses these issues as well, and addresses both law (mandates) and principle (guidelines and matters of conscious). The Bible is divided into sixty-six books and in two sections. The initial section is the Old Testament, and was written before Jesus. The latter, the New Testament, was written after Jesus. The Old Testament contains specific theocratic rules (Law) that governed behavior and expressed God's expectations. Many of these were ritualistic in nature, and brought with them stiff penalties when violated. There are distinct differences in motivations for ethical behavior between the two Testaments.

While specific behaviors are also included in the New Testament, the emphasis is more towards general principles of behavior. According to Christianity, the strict Law (rules) in the Old Testament pointing to a person's inability to behave in such a holy state so as to make him or her acceptable to God or to provide suitable restitution for past sins. In the Old Testament, the need for mercy from God was emphasized. Mercy is defined as God not punishing us for what we *do* deserve. However, in the New Testament the need for grace is made clear. In the original language (Greek), grace literally means *favor*. Theologically, grace is receiving something from God that we *don't* deserve, i.e., receiving salvation or avoiding punishment.

In the Old Testament environment, *people practiced ethical behavior* (i.e., attempted to keep the Law) *to avoid God's punishment*. However, the message of Jesus clarified the better motivations for ethical behavior. Jesus elevated the Law, which made the need for Grace more evident. For example, He taught that hating one's brother was tantamount to murder. He taught that lusting was equivalent to adultery. Who has never hated or lusted? This completely changed the motivation for ethics. Therefore, the later sections of the Bible taught that people needed not only mercy, but also a

favor (grace) to be in a right standing before God. The level of goodness required was simply too high a plateau to reach in order to be in a right standing with God. Therefore, mercy and grace were needed. These concepts are essential in understanding Biblical ethics.

According to Christianity, the mercy of God was demonstrated to mankind by transferring their sins on a sinless Jesus at the time of His crucifixion, and offering grace to those who believe (or trust or rely on Jesus' redemptive work versus their own attempts to obey God's law to achieve righteousness and salvation.) *Therefore, the desire to act ethically was not to be from an act of necessity* (i.e., from a frustrated and futile attempt to make oneself acceptable to God). According to the Christian perspective, *one is to behave ethically because he or she is a believer, and not to become one.*

However, there remain essential expectations of specific behavior in both Testaments (theological disagreements are more related to the degree to which these expectations apply to modern life.) God's specific expectations for our behavior are especially found in the Ten Commandments, which are fundamental to Normative Ethics.

Normative Ethics are simply related to statements of correct and improper behavior, or our *duty* or how we are supposed to behave. Biblically, this occurs very specifically (Law) as well as general principles. The next section covers the foundation of Old Testament Law as found specifically in the Ten Commandments. While various ecclesiastical entities will disagree as to the extent to which the Ten Commandments apply (specifically or generally, as well as applicability to modern culture), most continue to view them as important. A common Christian view is that the ritualistic aspects of Old Testament Law were fulfilled in Christ, and are no longer a requirement. However, the Ten Commandments are referenced throughout the Bible (with emphasis also in the New Testament with an arguable exception to Sabbath observance) and remain important to both Christianity and Judaism. These, too, remain in modern debate as to their public posting.

Biblical Normative Ethics - Law

The following are the Ten Commandments with specific and general applications. (The Ten Commandments can be found in Exodus 20, the 2nd book of the Bible.) According to the Bible, God Himself wrote these. The Bible teaches that when Moses ascended Mt. Sinai, God wrote the words on tablets of stone. These tablets were kept in the Ark of the Covenant, a decorated box that was placed in the Temple and sometimes carried into battle. (This was the major focus of the plot in the movie, "Raiders of the Lost Ark.")

While the Commandments reflect God’s primary expectations as to our behavior, some directly relate to business and thus engineering ethical behavior. All, however, present practical and general principles that can be applied.

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|---|
| <p>The Ten Commandments</p> <ol style="list-style-type: none">1. Thou shalt have no other gods before me2. Thou shalt not make unto thee any graven image3. Thou shalt not take the name of the LORD thy God in vain4. Remember the sabbath day, to keep it holy5. Honour thy father and thy mother6. Thou shalt not kill (murder)7. Thou shalt not commit adultery8. Thou shalt not steal9. Thou shalt not bear false witness against thy neighbor10. Thou shalt not covet |
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1. *Thou shalt have no other gods before me*

The specific application is a prohibition on polytheism (worship of many gods) or any single god other than Jehovah. As a practical matter, this commandment allows us to maintain a proper focus in life. For a believer, nothing should be put ahead of God. Therefore, following His precepts become a priority, and in many ways sums up many of the other expectations. It is easy for us to get caught up in our work to a point we forget what is really important and lasting. Whenever business success becomes the highest priority, other priorities will slip, including ethics.

2. *Thou shalt not make unto thee any graven image*

The specific application is the worship of idols. This involves setting up something to worship instead of God. The Bible speaks of other ways of thinking and behavior as being idolatry. As with the above, the Bible would ask of us to have the proper focus. Is our business more important than God? Is getting that next contract more important? Is making more and more profit even when it exceeds what the market would bear more important? According to the Bible, nothing should take the place of God, whether it is things, actions, or a literal idol.

3. *Thou shalt not take the name of the LORD thy God in vain*

The specific application is using God’s name in a way that isn’t in a context of a respectful reference. This can include the exclamation, “Oh my G_d!” Being honest when sworn (such as in court) is another application of respecting God’s name. Other abuses can include cursing, profanity, or swearing a vow and not keeping it. On a practical level, lewd or inappropriate language can be problematic in a business or interpersonal relationship. Using such language is often offensive to the listener, especially a person of faith. Use of a deity’s name in any context other than a proper reference should be avoided.

4. *Remember the sabbath day, to keep it holy*

In the Old Testament, the seventh day was given to Israel to be set aside for worship and rest. In Christianity, there are various views as to the extent a Sabbath is to remain holy, or separate, as well as the day on which it is to fall. Such a debate is outside the scope of this course. But from a practical perspective, it is important that staff be given the opportunity to rest from their work and reflect spiritually if they choose. Especially in engineering, people need mental rest; otherwise, mistakes are likely to be made. Working excessive overtime should be the exception and not the rule. Plan your work wisely so that the need to work on a person's day of rest or Sabbath is not necessary. Remember, Jesus said, "The sabbath was made for man, and not man for the sabbath" (Mark 2:27).

5. *Honour thy father and thy mother*

This is the first commandment with a promise attached to it; that is, if you do this then something will result. The word *honour* means to *obey*. Specifically, one is to obey his or her parents, presumably in their youth, although respect is expected beyond adolescence. There is a natural benefit to observing this commandment – we can learn wisdom from their experience and avoid unhealthy behavior that leads to a premature death. Generally, it teaches that we are to respect authority found in our parents as derived from God. Later, we will discuss the emphasis the Bible places on respect for authority in general and its natural benefits. As a principle, younger engineers can learn from older, more experienced engineers. Mistakes can be avoided, and proper customer interaction can be demonstrated. It is interesting that in today's society, staff is often "put out to pasture" when they reach a certain age, although they both desire and are able to continue to contribute.

6. *Thou shalt not kill*

The specific requirement of this Commandment is to respect human life, namely, do not murder. This does not necessarily include manslaughter or capital punishment, although many debate the extent to which any killing is permitted. However, this clearly teaches that we should view life as precious because it finds its source from God. There is a practical application to business and engineering ethics as well. For example, safety should be paramount, with not only the initial installation but also the resulting operation or use. Our work should do no harm. You will notice that protection of the public's general safety is a key principle in all publications regarding

engineering ethics. Another element of this (depending on one's personal faith convictions) is to consider the industry for which services are being provided. Does it offer goods, services, or products that are inconsistent with one's values? If so, perhaps the industry should not be pursued.

7. Thou shalt not commit adultery

This specifically prohibits sexual intercourse outside of marriage. There are applications to Business Ethics here as well. All forms of sexual harassment (or even things that could be viewed as such) should be avoided. These can lead to lawsuits, dismissal, and lost contracts. Even ogling is a problem, which reflects the notion of committing adultery in one's heart.

8. Thou shalt not steal

Here, depriving another of his or her property is prohibited. From an Engineering Ethics perspective, we can easily steal. This can include the less frequent (among professionals) taking of property that doesn't belong to us, but most commonly involves overcharging fees, slacking off on the job, overstating change costs, or claiming more time than was actually worked on a project. Taking advantage of a situation and overcharging is also tantamount to stealing. To stretch this further, do you look after the financial interests of your client? Is there a more cost effective way of achieving the same results? Although technically not stealing, you owe it to your client to offer the best services that meet their needs.

9. Thou shalt not bear false witness against thy neighbor

We are not to falsely accuse another, thereby damaging his or her reputation. This is a common Engineering Ethics principle as well. We are not to falsely criticize another engineer for any reason, especially in order to gain employment or client advantage. In secular engineering ethics, we find a prohibition of criticizing other engineers to gain an advantage.

10. Thou shalt not covet

This is desiring something that is someone else's property and is not ours to have. A general principle could be considered from this that is applicable to Business Ethics. We can desire a position, a contract, more fee, etc. to the point it is unhealthy for the business relationship and us. Such a desire (which the Bible calls coveting) can easily consume us. Contentment is a key practice to avoiding such unhealthy coveting.

Biblical Normative Ethics – Principle

Much of Biblical ethical practices are derived from principles. The Bible isn't a book that attempts to address each issue specifically (especially the New Testament which encourages the believer to "put on the mind of Christ.")^{vi} The following are a few of the many principles that can be derived from Biblical teachings that are contemporarily relevant.

1. Interpersonal

While the Christian religion is primarily focused on mankind's relationship to God, it is closely followed by attention to interpersonal relationships. Jesus emphasized this – listen to this discourse from Matthew 22: "36 Master, which is the great commandment in the law? 37 Jesus said unto him, Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind. 38 This is the first and great commandment. 39 And the second is like unto it, Thou shalt love thy neighbour as thyself. 40 On these two commandments hang all the law and the prophets." Jesus responded to a question as to which was the greatest commandment. He responded that it was to love God, but the next to it to love other people.

a. The Golden Rule

In the above text, the principle of the Golden Rule is presented. We know the Golden Rule as, "Do unto others as you would have them do unto you." When we practice this simple but profound principle, we also act ethically. In most situations, we can quickly assess how we would like to be treated under a similar situation. Would we want the engineer to be properly trained to perform the task? Would we wish to be fairly billed? Would we wish to be fairly compensated? Would we wish to have mercy for reasonable mistakes? Would we want others to hold themselves accountable for their designs? Would we want to be paid for changes on approved designs? Would we want someone to sign/seal a drawing on which they had no real oversight? As in religion, ethics are essentially concluded in the Golden Rule principle. In Proverbs 3:28, the concept of the Gold Rule is even more expanded where we are instructed not to withhold good from others: "Withhold not good from them to whom it is due, when it is in the power of thine hand to do it. Say not unto thy neighbour, Go, and come again, and to morrow I will give; when thou hast it by thee."

b. *Forgiveness*

Perhaps there is no greater virtue in the Christian religion than that of forgiveness. Not only does it free the offender, but the offended as well. In Christianity, forgiveness of one another is presented as a key necessity for receiving God's forgiveness. Jesus summed up the importance of forgiveness when He said, "For if ye forgive men their trespasses, your heavenly Father will also forgive you: But if ye forgive not men their trespasses, neither will your Father forgive your trespasses" (Matt. 6:14-15). Ethical behavior necessitates forgiveness. Forgiveness is defined as choosing not to hold an offense against another. This doesn't mean we forget the offense, or that there need not be consequences of an offense (especially with illegalities.) Yet, forgiveness is necessary for the forging of effective working relationships. Primarily, ethical behavior according to Christianity necessitates forgoing vengeance or personal punishment against another. On a personal level, Christianity teaches that retribution is in the realm of Deity, and when we don't pursue vengeance, we will see ethical behavior between individuals and peace. The Apostle Paul wrote, "Dearly beloved, avenge not yourselves, but rather give place unto wrath: for it is written, Vengeance is mine; I will repay, saith the Lord" (Rom. 12:19).

c. *Authority*

Ethical behavior includes the appropriate respect for authority, whether it is legal or organizational. When legal authority is violated, illegal acts result (such as practicing engineering outside one's area of expertise, sealing drawings on which one had not oversight, etc.). This concept of obeying both legal and managerial authority is rooted in the Bible. For the believer, the motivation for obedience is out of recognition of the source of the authority. "Let every soul be subject unto the higher powers. For there is no power but of God: the powers that be are ordained of God" (Rom. 13:1) Because ultimately God is behind the scenes in control of all, our call is to submit to Him. "Whosoever therefore resisteth the power, resisteth the ordinance of God: and they that resist shall receive to themselves damnation" (Rom. 12:2). However, such obedience is never blind nor are we to be automatons – we are called to obey God first (see Acts 5:29). In a similar way, we are called to obey our managers, termed as "servants" and "masters" at the time the Bible was written. "Servants, obey in all things your masters according to the flesh; not with eyeservice, as menpleasers; but in singleness of heart, fearing God" (Col 3:22).

In summary, ethical behavior calls us to obey laws to the extent it doesn't violate real conscience, and follow management leadership to the extent laws aren't violated or other unethical behavior is mandated.

d. Nondiscrimination

Inappropriate discrimination in business is treating one differently (in a negative sense) for reasons other than performance and ethical behavior. The Bible has much to say in principle about discrimination, although it was penned in a time when slavery and mistreatment of women was socially acceptable. The early Israelites were commanded to treat non-Israelites with kindness. "Thou shalt neither vex a stranger, nor oppress him: for ye were strangers in the land of Egypt" (Ex. 22:21). This can certainly apply today with the incredible inrush of immigration from non-Western cultures. Thousands of years before discussions of equal pay for equal work between genders, we find a beautiful discourse on the ideal woman in Proverbs 31, which included her industry. And the Bible teaches that fair wages are to be paid to all: "Masters, give unto your servants that which is just and equal; knowing that ye also have a Master in heaven" (Col. 4:1). Those in management or supervising others have a Biblical mandate to treat their workers fairly, because God is the ultimate manager and He doesn't view the earthly manager as being superior to his/her subordinate. "And, ye masters, do the same things unto them, forbearing threatening: knowing that your Master also is in heaven; neither is there respect of persons with him" (Eph 6:9). This issue is summed up in the following: "Thou shalt not oppress an hired servant that is poor and needy, whether he be of thy brethren, or of thy strangers that are in thy land within thy gates" (Deut. 24:14).

2. Financial

a. Taxes

Although taxes are an imposition few (if any) enjoy, it is a given that Ethics requires we properly pay our taxes. This principle is also found in the Bible. When Jesus' critics asked Him whether it was appropriate to pay taxes, He said, "Render therefore unto Caesar the things which are Caesar's; and unto God the things that are God's" (Matt. 22:21b). Keep in mind that this comment was profound, given Israel was under oppressive occupancy of Rome.

b. Debt

Ethically, one should not incur debt beyond his or her ability to repay. The Bible equates excessive debt with virtual slavery; “The rich ruleth over the poor, and the borrower is servant to the lender” (Prov. 22:7). It also requires that we pay our debts – “Owe no man any thing, but to love one another: for he that loveth another hath fulfilled the law” (Rom. 13-8) While debt is not prohibited, it is cautioned and required to be paid (that is, not owed indefinitely). Also, we are warned not to bear the debt liability of others. “My son, if thou be surety for thy friend, if thou hast stricken thy hand with a stranger, Thou art snared with the words of thy mouth, thou art taken with the words of thy mouth. Do this now, my son, and deliver thyself, when thou art come into the hand of thy friend; go, humble thyself, and make sure thy friend” (Prov. 6:1-3)

c. Budgeting

Jesus used a practical truth to illustrate a point when He said, “For which of you, intending to build a tower, sitteth not down first, and counteth the cost, whether he have sufficient to finish it?” (Luke 14:28). It is necessary to plan and budget appropriately, “Lest haply, after he hath laid the foundation, and is not able to finish it, all that behold it begin to mock him, Saying, This man began to build, and was not able to finish” (vs. 29, 30). Lack of due diligence in estimating the manhours properly or the construction cost is at best sloppy, and at worst misleading – both are unethical. In a similar way we as engineers should ensure our designs will work and meet the user’s needs.

d. Honesty and Fairness in Dealings

Honesty in dealings in the Bible was written to be understood in the historical context of the reader, namely fairness in standard weights: “Divers (various) weights, and divers measures, both of them are alike abomination to the LORD (Prov. 20:10), and “Divers weights are an abomination unto the LORD; and a false balance is not good” (Prov. 20:23). If an A/E (Architect/Engineer) bills for hours not worked, it is in effect using false measures. Honesty and the Golden Rule essentially sum up Biblical Business Ethics. “For my mouth shall speak truth; and wickedness is an abomination to my lips” (Prov. 8:7).

e. Paying on time

Immediately following the admonition that we should not discriminate, we find the following: “At his day thou shalt give him his hire, neither shall the sun go down upon it; for he is poor, and setteth his heart upon it: lest he cry against thee unto the LORD, and it be sin unto thee” (Deut. 24:15). Ethical behavior requires that we pay our debts on time. Not doing so causes harm to others, whether individual or companies. Forgoing payment is especially a hardship on those in a lower socioeconomic status. According to the Bible, God takes this seriously. “Behold, the hire of the labourers who have reaped down your fields, which is of you kept back by fraud, crieth: and the cries of them which have reaped are entered into the ears of the Lord of sabaoth.” (James 5:4).

f. Greed

Greed is akin to coveting, which was covered in the aforementioned commandments: “Thou shalt not covet thy neighbour's house, thou shalt not covet thy neighbour's wife, nor his manservant, nor his maidservant, nor his ox, nor his ass, nor any thing that is thy neighbour's” (Exod. 20:17). However, greed goes beyond merely wanting what others want, but hoarding that which we should forgo or make available for others. Greed causes engineers to overcharge fees, and not properly compensate their employees. Greed causes us to hoard for no reason other than greed itself. “There is that scattereth, and yet increaseth; and there is that withholdeth more than is meet, but it tendeth to poverty” (Prov. 11:24).

3. Motivation for excellence

Ethically, we are to do all things with excellence. The Bible directs believers to do all things as if they are doing it for God. This is to be the primary motivation. The Bible tells us that we are to work “as the servants of Christ, doing the will of God from the heart; With good will doing service, as to the Lord, and not to men: Knowing that whatsoever good thing any man doeth, the same shall he receive of the Lord, whether he be bond or free (from Eph. 6: 6-8).

4. Safety and Responsibility

Ethically, we are expected to develop proper designs and installations that do not offer undue safety threats to people. Do you realize the Bible addresses this as well? In the Old Testament, the theocratic legal system was very specific regarding one’s responsibility for the safety of another

(thankfully we are not under such a strict legal system today.) For example, read this verse from Exodus: “But if the ox were wont to push with his horn in time past, and it hath been testified to his owner, and he hath not kept him in, but that he hath killed a man or a woman; the ox shall be stoned, and his owner also shall be put to death” (Exod. 21:29). Here is a situation where an individual did not cause his animal to harm another, but had knowledge of its danger and yet did nothing about it. Legally, we are to include safety considerations in our designs to prevent harm to others. When we fail to do this, there remain strict legal consequences even today. At a minimum, we are held financially responsible for our actions that cause harm or damage. Later, in the same chapter, a verse requires retribution if one causes damage to another’s property. “And if a man shall open a pit, or if a man shall dig a pit, and not cover it, and an ox or an ass fall therein; The owner of the pit shall make it good, and give money unto the owner of them; and the dead beast shall be his” (Exod. 21:33-34).

5. The Environment

In the earliest accounts of humankind in the Bible, God gave the Creation Mandate. “ 26 And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. 27 So God created man in his own image, in the image of God created he him; male and female created he them. 28 And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth. 29 And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat (food) 30 And to every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is life, I have given every green herb for meat: and it was so” (Genesis 1). From this long passage, the Bible indicates that God gave man the responsibility to use and care for creation. While the resources are offered to us to use, it is clear elsewhere in the Bible that such use is not to be with reckless abandon. For example, there are Old Testament passages that indicate land is to be given a complete rest every seven years. Soldiers were commanded to use a place outside their encampment as a toilet. As commentary on the Bible, the Jewish Talmud prohibited wasting fruit trees.^{vii} We can show our gratitude to God for the natural resources He has placed in our care by keeping it beautiful – the patriarch Abraham did this when he planted at tree at

Beer Sheba. Ultimately, the Bible teaches that the land is God's and not ours; therefore, we should care for what is not ours but afforded to us to use. "The land shall not be sold for ever: for the land is mine; for ye are strangers and sojourners with me" (Lev. 25:23). The Golden Rule also applies in responsible care for our environment – when we harm it, eventually a person is harmed.

However, the Bible never suggests the natural world should be an object of worship. Ultimately, the Bible prescribes the order of priorities as God being first, and people second – other things follow (including the environment) and the reader is warned not to worship the creation (see Rom. 1:18-25).

Exercise/Assignment

Pause before taking the test and do the following (the Quiz will ask if you performed the assignment).

1. Find a Bible with a topical index, or go online to the many Bibles/search routines available. Use only the more literal translations of the Bible for your search, which actually reflect the original words. Widely used and more accurately translated versions include KJV, NKJV, and NASB.
2. Think of a particular area of Ethical concern with which you struggle. If you cannot think of one for you, think of your organization or customers.
3. Search for Bible verses that apply based on key word searches.
4. Ask yourself:
 - a. Is this Law, or Principle?
 - b. How can I apply it practically?
 - c. How does this compare to contemporary and accepted Normative Ethics?
 - d. How does it comply with the Golden Rule?
5. Commit to improving and functioning Ethically

Course Summary

In this course, we reviewed the basic ethical principles necessary to understand a framework in which to view Ethics from a Biblical perspective – academically and practically. Then, we reviewed certain Biblical absolutes (law) and principles that are underpinnings of many contemporary and accepted ethical standards. For the person of faith, the Bible can be a legitimate source of solid ethical behavior in business and the practice of engineering.

End Notes:

ⁱ Grudem, Wayne; “Bible Doctrine – Essential Teachings of the Christian Faith;” Zondervan, 1999

ⁱⁱ See “Van Tillian Presuppositional Theonomic Ethics” by Jay Rogers. For more reading, see Van Til, Cornelius, Christian Apologetics, Phillipsburg: Presbyterian and Reformed Publishing Co., 1976, and Van Til, Cornelius, "My Credo"

ⁱⁱⁱ Anselm, Proslogion, chapter II, <http://www.fordham.edu/halsall/basis/anselm-proslogium.html>

^{iv} Darwin, Charles, 1881. Letter to W. Graham. In F. Darwin, ed., The Life and Letters of Charles Darwin. New York, D. Appleton & Co., 1905,

^v Schaeffer, Francis; “The Complete Works of Francis Schaeffer: A Christian World-View,” Crossway Books, Wheaton IL, 1982/94, vol. V 467

^{vi} 1Cor. 2:16

^{vii} See the excellent article entitled “Biblical Foundations of Business Ethics” by Hersyeh H. Friedman, Professor of Business and Marketing, Brooklyn College of the City University of New York