My position statement is presented as an abbreviated parody of Bob Dylan's “Like a Rolling Stone”. Lyrics are *italicized*, and explanations are in plaintext beneath each verse.

Once upon a time you had a design
With perfect angles, theoretically fine, didn't you?
Profs would say, "The X-Acto knife just can't meet, those lines so discrete,"
You thought they were all kiddin' you
You used to laugh about
Every caution, every doubt
Now you don't talk so loud
Now you don't seem so proud
About the heap of scraps they threw out

You can use all the CAD programs right
But you know you only used to model in it
And nobody's ever taught you how to cut such tiny pieces
And now you're gonna have to get used to it
You said you'd never compromise
With your perfect blueprint, but now you realize
The value of their words, the wisdom in their guise
As you stare at the wreckage of your failed design
And say, "Is it too late to revise?"

My approach to engineering design is to aim for simplicity. My philosophy was mostly borne out of the CIV102 bridge project experience, where we created a really nice theoretical design. We spent a lot of time perfecting every little detail, double checking our calculations, and pushing things to the limit. When it came time to build the bridge, we were way out of our exceedingly small tolerances and ended up with a really poorly built bridge. This experience pushed me to where I currently stand on engineering design, but my basis is a little bit flawed, since it's literally based off of one past experience. As well, simplicity is a spectrum, so “aiming for simplicity” is a bit disingenuous, not only because “simple” means different things to different people (my personal definition is a lack of superfluous aspects, but then we run into a subjectivity issue…), but also because engineering designs could always be more simple, but at some point simpler becomes worse. I expect that my position on this will shift over time as I gain more lived experience, but my one actual experience doing engineering design failed spectacularly, and seared this lesson into my brain, which is why it's my current stance.

You never turned around to see old blueprints and the ruins
When they all had lessons for you
You never understood that it ain't no good
You shouldn't let novelty get all the views for you
You used to dream of leaps and bounds, design profound
Ignoring steps, on solid ground
Ain't it hard when you discover that
Iteration is where it's at
After you ignored all the wisdom of the ages past

In my opinion, the most important parts from both engineering and design is that they're both built on previous experiences. Engineering requires the advancement of scientific discoveries in order to solve problems that get more and more complex. Designs get better as we look back on previous designs throughout history, and see why some did well and where others faltered. Both are an iterative process that cannot be performed in a vacuum. This also explains why I initially wanted to become an engineer, and why I now want to be an engineer for the exact opposite reason. Reading those kiddie history books, you only ever see one person associated with each accomplishment. The natural assumption is that these cool inventions were one person's sole idea, a stroke of genius that they did completely from scratch themselves. Obviously, that's untrue, because engineers work in teams and build off previous experiences. I think that it's super cool to be a part of this process that will go on until humanity ends, contributing my little building block to society, working off a massive trove of knowledge and solving the world's problems.