Assignment 1


Assignment:
what is the issue or issues that impacted you more?
How to embrace the needs of an engineering career?

400 word essay

http://www.asme.org/publication.htm
Team Dynamic

Assignment 1 (no title)

There are stark differences between academe and industry, and this paper (which one?) does a nice job of pointing out several important ones. The issue in this article that had the greatest impact was surrounding the new engineer’s ability to learn the business side of working. While school prepares engineers well in technical capabilities, much is left untouched as far as knowledge of businesses and how they work. This paper does a good job of giving a high-level explanation of where money comes from, profit, company politics, and managing changes in the marketplace. Another part of the paper that had a lot of impact (on us) was the parts about the improbability of new ideas ever reaching fruition. That is, it is difficult for a totally new idea or product to be cost-effectively developed to market by a large corporation because of budget, time, manpower constraints and a deep-rooted corporate mindset to always do what has worked and not risk large amounts of money and research on new ideas. Another issue that had impact was the issue of integrity discussed in the paper. The professional integrity of the modern engineer is paramount in the success of modern companies.

To embrace an engineering career, a green engineer needs to have an open mind on new challenges that may be out of his/her comfort zone as well as an affinity for diversity and flexibility. This is illustrated in the paper when the author discusses multi-disciplinary problems and the engineer’s ability to work with teams that are not only diverse culturally, but also diverse from a standpoint of professional experience and technical knowledge. In addition to working across cultures, the idea of having an innovative mind over a closed mind is stressed. A “Not Invented Here” attitude will not allow opportunity to prosper. In a modern company, a manager will not take care of each engineer; therefore, you must take control of your own career, planning where you want to go with your life by gaining experience in various aspects of engineering and business. As the engineering world is adapting to society and a global economy, it is important to step out of one’s preconceived notions and take on new rules and challenges that will set themselves apart.

LSA: title and reference missing. Several sentences are poorly worded thus showing a conflicting meaning.
The issues or pieces of advice we found to be the most beneficial were the following: Learn to be Business Oriented, Learn the Difference between Academe and Industry, and Learn to Differentiate all over Again (specifically capturing the 4 E’s).

The goal of any company, beyond providing services or products or anything of that nature, is to make money. A company needs money to operate. Money is necessary for purchasing power, to pay employees and to grow within an industry. And even though we as engineers may not be heading up the accounting department and directly taking care of a company’s cash flow, we need to be business savvy in the sense that what we do impacts the company’s bottom line one way or another.

Change is on the horizon for many of us (who is us?). We are about to enter the “real world” so to speak and begin our careers as young engineers. Up until this point in our lives, our days have been largely occupied by school. That is what all of us have known for the last 15, 16, 17 years. Now we are about to start working and although school has prepared us for work, they are not the same and that is something we all need to realize and prepare ourselves for.

Making yourself marketable is a definite key to success. What better way to impress a future employer than to be an individual that possesses the 4 E’s? Energy, energize, edge and execute...these 4 things make people special. If you bring energy to work, have the ability to jump start your co-workers, have that knack that sets you apart from the rest and continuously produce results, you will be a successful individual.

All of the above ties into the needs of an engineering career. All engineers are expected to have strong technical skills, but the modern engineer needs more than just technical skills. The modern engineer needs to have social and people skills. The modern engineer needs to understand business and needs to be able to thrive in a global market. The modern engineer is more than simply a number cruncher and this is exactly what this article captures.
The Needs & Challenges of Building an Engineering Career

Of all the issues presented in the selected reading the most impactful were: 1) to have fun, 2) manage your career, and 3) learn to be business oriented. As Aggies, it is a consensus that “unyielding integrity” is a fundamental characteristic of all engineers in industry, and thus does not need to be mentioned in this synopsis.

Most people spend the majority of their waking hours at work, so it is essential that they enjoy their work in order to enjoy their lives. Many people believe that money can buy happiness and forfeit the enjoyment of their work for a fat paycheck. Unfortunately these same people usually end up sorely disappointed. Going hand-in-hand with one’s personal enjoyment of work is the management of one’s career. The phrase “you get out what you put in” applies heavily to this principle, where each person essentially controls his or her own destiny. By having a proactive attitude and specific goals a person can manage their career in such a way that will greatly benefit both their company and their own personal interests. Lastly, it is important that engineers understand the economic challenges that they must navigate in order to be successful. Without a good understanding of this, engineers may make decisions that could be harmful to their company.

To achieve these essential aspects of a career in engineering, one must be proactive from the beginning. Choosing a career path that is fulfilling in a positive company setting is an important step early after graduation. Not everyday can be great and not every coworker can be cooperative but one can always choose to make the most of his or her circumstances. Engineers must always maintain a willingness to learn and be open to new technologies, ideas, and processes. It is equally important for engineers to learn how to work well in team settings and communicate effectively. By combining all of these practices, an engineer can not only take his or her career extremely far, but can also have a satisfactory work-life balance.

LSA: Missing reference. 2nd and third paragraphs show different styles. Par. 2 does not flow into Par. 3.
Team Alphas

**Engineering – What You Don’t Necessarily Learn in School**

Engineers must face and expect tough multi-disciplinary problems. You are not always assigned tasks that use your strengths. You cannot say “this problem isn’t in my field,” you have to complete the task. You also have to know when to stop working on assignments or projects. **There comes a point when added work does not translate into added value.** More work may improve a particular component, but it then delays other tasks and components, which leads to higher costs and late delivery dates.

Typically engineers enjoy being right or having things done their way regardless of other GOOD ideas, letting their ego get in the way. The seventh insight, “Being Open to Ideas from Every Where,” shows how an egotistical mentality can ruin you in industry and that attitude is everything. Many of the quotes from section 7.3 prove how ignorant powerful people can be by disregarding an idea simply because it is not their own. **Attitude influences anyone that an engineer encounters, so why choose to react to others poorly without considering their ideas and beliefs?**

An engineer must embrace several needs. An easy way to do so is with two figures – a mentor and a champion. These are two important and separate people. The first is a wise and trusted counselor that can take your under their wing. In doing so they will help you with issues or questions one might have that can be answered with their own experience. The later on the other hand can guide you through the ranks of the organization. During your career, the champion can suggest you to new opportunities within the origination or promotion.

Engineers also need to be aware that in industry they do not operate in a monetary vacuum and must be timely and keep on their budget. They must understand how engineering decisions are affected by the economics of their business/industry. Understanding how the business operates with its money will not only allow the engineer to identify with what the managers are dealing with but can also foster positive morale by lessening conflict interdepartmental conflict. Being able to work as a team and foster creativity is something that is extremely important to industry and is paramount to an engineer wishing to advance their career.

Reference missing

**LSA:** Paragraphs (1, 2) and (3,4) show different composition styles. A paragraph does not flow into the next. It appears there was little discussion among writers.
The marketplace and business world in which new engineers are employed into is evolving. Many engineers today acquire the theoretical knowledge necessary to build a foundation for their careers while in university. However, this simply will never be enough for the newly graduated to transition easily into the marketplace; and with the way the business world is evolving, may become more difficult. The article Engineering – What you Don’t Necessarily Learn In School gives several reasons as to how this market is evolving and provides engineers with ample advice on how to survive in it. One of the largest impacts is the globalization of the marketplace. Engineers need to realize that they will be emerging into a market in which some of the biggest competition will come from overseas, but at the same time, will have to take their business across the oceans to achieve goals and produce products at cheaper rates. Long gone are the days of specialization as well. Engineers need to be prepared for problems that span multiple disciplines and be prepared to tackle such problems. It is difficult to gain experience in this due to constraints on class times and teaching material, but there are ways in which a newly graduated engineer can prepare themselves.

Unfortunately, success for a young engineer isn’t just laid in their laps. Engineers need to be competitive in a new global marketplace. To fully embrace the needs of an engineering career, former students must be proactive, willing to learn, and have a good attitude. The fact remains that if you want something for yourself, you have to go after it. From the first day of work, take control of your future and pursue a mentor, a champion, a promotion, and anything that shows motivation. Continually learning throughout ones career is another task that must be undertaken. The world is changing at an incredible pace. To keep up with current technologies and techniques, engineers must be taking every chance to learn. Finally, attitude really sets the tone for your career. Nothing great was ever achieved without passion. Approaching problems with the right attitude promotes passion in ones work. Having an emotional attachment makes the process personal and easier to fully commit. Engineering careers are becoming more complex and perplexing. Energy, food, clothing, and infrastructure are all challenges the world must solve in the future, but that’s what makes engineering exciting.

LSA: Missing a reference and a title. Juicy pearls of wisdom! 2nd paragraph (last sentences) show different style (author) than the rest of essay.
Team Hoof-Hearted

Assignment 1 - No title

Our world has changed so much in the last few years that higher education is not enough to prepare students for the work environment in modern industry. Perhaps the most noteworthy issue in Wisler’s article is the need to think about engineering with a business perspective. Students are taught to always find the optimal performance of a design without considering the cost, manufacturability, and market need of the design itself.

One important component of understanding the business side of engineering is the understanding of the concept of profit. It is often necessary to downsize a company to maintain profit, otherwise the business will go under. This is relevant to the working engineer because if he does not provide more revenue than cost, he is no longer valuable to the company and thus dispensable. The way to avoid this problem is to stop thinking solely about what is best for the product, but to think what is best for the consumer and the company itself. If an engineer provides a perspective that will show he can satisfy the desired need with minimum cost and high efficiency, he is building his own job security.

A second pertinent topic is the need for an engineer to understand the values, codes of conduct and culture of the company. Business is run differently in different places in the world. In order make a company profitable, it is good to expand into other cultures (markets); however the local market will overcome the company if there is a clash in cultures. This is vital to a company that wishes to run for a long time, since in this modern world, there is competition coming in from all over. Countries such as China, Korea, India, Malaysia and Brazil are overcoming the manufacturing world by making products cheaper and faster, not necessarily better.

If the business mentality is not implemented into the modern engineer’s curriculum, the students in the US will fall behind other cultures. This will make the United States lose its competitive edge and worsen the economic situation. In order to prevent this as a modern engineer it is imperative that engineers be taught the how to consider costs, profit, investments and interests along with all the technical knowledge that is being accredited.

References


LSA: title missing. 2nd paragraph shows a markedly different style from pars. 1 and 3
What You Don’t Learn in School Essay

Today’s engineering curriculum provides recent graduates with a foundation to tackle the toughest engineering problems. Missing from this foundation, however, are a certain number of skills that are absolutely required to be successful in today’s industry. **They include the ability to be teamwork oriented with people no matter what their discipline or nationality, to have excellent communication skills, and to understand the difference between academic and industry timescales.**

Having to learn to work and network in a new environment can be an arduous task for an engineer, especially if this has not been taught in school. Working and networking in a new environment involves doing it in a new time scale and with multiple individuals. While in school most assignments are due the next class period and are independent of other classes. However, in industry projects take much longer to complete due to their complexity, also requiring mastery of various fields, not just one. As a result one (the engineer?) will have to interact with various individuals who come from different disciplines and have different backgrounds as opposed to being in a class with students learning the same thing. Due to these differences it is crucial that young engineers acquire good communication skills that will enable them to not only convey their opinions but also do it in a timely manner, which will speed up the process and make the project more successful. In order to be better prepared to succeed in this new environment, engineering students must get involved with activities that allow them to interact with persons who are different from them and projects that require more than a day’s work. A great example of this is the Formula SAE team that requires students from different majors to interact with one another to design and build a formula style racecar over two semesters. Being involved in this project not only allows engineering students to interact with others who might have different agendas but are ultimately working on achieving the same goal within a timeline in order to present it to a board of judges.

Ultimately, a handful of key issues are left out of higher education that are essential to real-world success in an ever-changing global marketplace for engineers. The “global village” that has emerged alongside the internet and other ways of instantly marketing and working around the world have ushered in a whole new set of possibilities, along with a whole new set of challenges. **Engineers and their educators must work to catch up if we are to survive in this ever-shrinking world.**

Reference (corrected as per ASME style)