


Fall 2016

Manufacturing and Engineering [Career Paper]

Mahdi Alawami

Western Kentucky University, mahdi.alawami267@topper.wku.edu

Follow this and additional works at: http://digitalcommons.wku.edu/ueul_award

 Part of the [Business Commons](#), [Education Commons](#), [History Commons](#), [Library and Information Science Commons](#), [Life Sciences Commons](#), [Physical Sciences and Mathematics Commons](#), and the [Public Health Commons](#)

Recommended Citation

Alawami, Mahdi, "Manufacturing and Engineering [Career Paper]" (2016). *Undergraduate Research Award*. Paper 29.
http://digitalcommons.wku.edu/ueul_award/29

This Other is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Undergraduate Research Award by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

Mahdi Alawami

Dr. Anne Heintzman

University Experience 175-007

I come from a family where finding the newest and best way to build something is considered the best way to make a living. Working in construction and engineering means having an education and the job opportunities that line up to create the best of all possible careers. Engineering involves knowing how things are made and built, and to do it well for a career means also understanding how companies can be organized and managed to get the best results out of workers. In order to make sure I have the best opportunities, I have to choose a career path that makes me valuable to a wide variety of employers in many industries, including manufacturing, construction, and specialty industries such as oil and natural gas. A firm foundation in manufacturing offers me this opportunity, and it is one of the most important types of engineering and industrial management that are available at the undergraduate level before entering the workforce.

Researching a career means looking at how changes in the economy have affected work in general. According to Reardon (2013), one change in recent decades is that there are very few middle-income jobs for new people on the job market. There are low-paying jobs for unskilled people and high-paying but also high-skill jobs for people with education that is relevant to important fields, including engineering. Without a job in one of these sectors, it is difficult to achieve upward social mobility. Ironically, engineers and others in similar fields were not considered gentlemen and are still not considered as professional as doctors, lawyers, or academics (Mraz, 2009).

Despite this, an engineer can make over \$80,000 while the median salary for men is around \$30,000. Outside the United States, engineers can make even more and have more social respect (Mraz, 2009). The educational requirements are much the same as any other professional job and a four-year baccalaureate is the standard education with graduate work as an option that specialists might want to take or if someone wants to go into research or teaching in the public or education sectors or gain special certification in a particular field, such as military engineering or public works management (Mattis & Sislin, 2005).

There are many open opportunities for engineers in many fields due to the low esteem that many people have for the job title and jobs are plentiful and pay is high. There is also a strong sense of specialization. There are manufacturing engineers who are specialists in production processes as well as electrical, mining, metallurgical, military, and chemical engineers. Each of these involves a high level of technical and practical knowledge (Mraz, 2009).

In my time at Western Kentucky University studying manufacturing there were many different facets of the engineering trades that different courses covered. Undergraduate education should cover the basic knowledge of the processes and organizations that I will encounter in my career and offer an opportunity for learning about a wide variety of industrial applications for this. Organizational management, quality improvement, manufacturing techniques and equipment, and how to use language effectively have all been covered as part of an appropriate liberal arts education focusing on my major knowledge designed to maximize my opportunities (Mattis & Sislin, 2005). I feel that I am well prepared to research specific jobs in my field, take on the responsibilities they require, and excel.

References

Mattis, M. C., & Sislin, J. (Eds.). (2005). *Enhancing the community college pathway to engineering careers*. National Academies Press.

Mraz, S. (2009, 7 Apr). Changes in the Engineering Profession Over 80 Years. *Machine Design*. Retrieved from <http://machinedesign.com/technologies/changes-engineering-profession-over-80-years>.

Reardon, S. F. (2013). The widening income achievement gap. *Educational Leadership*, 70(8), 10-16.