

# Genetics thesis statement essay sample

[Science](#), [Genetics](#)



This essay discusses the career of Genetic Engineering, defining the meaning of it, looking at its' history and discussing advantages and disadvantages of it.

What is Genetic Engineering?

I believe to understand what genetic engineering, we need to delve briefly into what genetics itself is. But when do the forces that will influence that child's development begin? The answer is also at conception. When the sperm penetrates the ovum it releases 23 chromosomes. Around the same time the ovum's nucleus breaks up and releases another 23 chromosomes.

It has been established that these chromosomes, which are broken down still further into even smaller particles which we call genes are what carry the heredity of the child. These 46 chromosomes carry all the physical heritage of the child, from his mother and his father. (Mussen, Conger and Kagan, 1970). Of course this applies to all living beings, including animals and plants. Artificial changes to a gene are genetic engineering.

History of Genetic Engineering

With the cloning of Dolly the Sheep and subsequent episodes, as well as the heightened debate of genetic engineering and modification that ensued, one might think that genetic engineering is new. This, however, is not the case.

Approximately 10, 000 years ago the beginnings of agriculture came about in the form of selections of wild grasses and subsequent breeding in cultivation to form the precursors of modern staples such as wheat, rice and maize. A considerable practical knowledge was developed by breeders over

<https://assignbuster.com/genetics-thesis-statement-essay-sample/>

the centuries and selection procedures often achieved from a single wild species a huge difference in form and function: e. g. the Great Dane and Chihuahua dog varieties from the wolf. Furthermore, 'unnatural' hybrids — i. e. creating breeds across species barriers — were made in ancient times. For instance the mule, a cross between a jackass or male donkey and a mare has been used as a pack animal in Europe for at least 3, 000 years.

Since then breakthroughs in genetic engineering have occurred on an ongoing basis, with one of the latest being one in 2004 at Seoul National University in South Korea: first human embryos created that were true clones of the sixteen women who provided the cells to make them. (A History of Genetic Engineering, 2005)

What are the benefits of Genetic Engineering?

Of course genetic engineering can be used in the treatment and prevention of all kinds of ills, in all worlds: human, animal and plant. But is it all good? Because genetic engineering is a largely unknown quantity, it is not possible to quantify risks, and therefore to say that the benefits outnumber the risks is a statement without proof.

That said, these benefits cannot be ignored. One example of an area of rapid change is *genetic mapping*. An international, scientific effort known as the *Human Genome Project* is attempting to construct a detailed genetic chart, or "map," of all the human chromosomes. The goal is to provide a comprehensive description of the sequence of the millions of DNA *base pairs* which human chromosomes contain. Researchers plan to use this

information to facilitate the identification and isolation of human genes, thereby providing a helpful aid in understanding human development and in treating human diseases. New details about the identity, role, and function of human genes are continually emerging. (Christian Principles for Genetic Interventions, 2005)

### Conclusion

By the above it can be seen that genetic engineering, or modification, has a long history and has distinct advantages which can not be ignored, but the risks are still to be defined.

### Works Cited

A History of Genetic Engineering, 2005, retrieved 1 December 2005 from the website <http://www.ifgene.org/history.htm>

Christian Principles for Genetic Interventions, 2005, retrieved 1 December 2005 from the website [http://www.adventist.org/beliefs/other\\_documents/other\\_doc2.html](http://www.adventist.org/beliefs/other_documents/other_doc2.html)

Mussen, Paul, Conger, John, and Kagan, Jerome *Child Development and Personality*, published by Harper International (1970)