**Genetics Counselor Project**

**Introduction:** Every day new discoveries are made in the field of genetics. As genetics has had an increasing impact on medicine, a new type of medical specialist, the genetics counselor has become important for many people. The genetics counselor works with patients affected by genetic disorder to educate them about the tests, symptoms, transmission and treatment of their disorder. In this project you will train as a genetics counselor and research a genetic disorder. You will then teach us about the disorder by creating a fictional case and presenting it as both a poster and a paper. By doing this, you will be learning and using the basic principles of human genetics in a real world situation. You must have at least three sources of information. Please be sure that internet sources are reputable.

**Reading:** Text chapters 10-13 (other parts of the text may also be used) and your own research.

**Requirements:**

1. At our *Sixth Annual Genetics Counseling Symposium*, you will make a **poster presentation** about your case. Other Genetics counselors should be able to learn about the case you are presenting, as well as inheritance patterns and other important information (as listed earlier in this assignment.Youwill have to answer questions about the case. **Visual aids** (pedigrees, Punnett squares, photos, karyotypes) are needed to help describe the information about the disorder.
2. An **informational handout** for members of the class.
3. **Individual** **paper** in which you present what you learned about the genetic disorder you researched. Be sure to discuss the fictional case you presented in class. (4-5 pages, 12 point font, 1.5 spacing, 1 inch margins)

**Note:** For both the poster and the paper, keep in mind that you are presenting a fictional case. Make up a situation (person, family, things that were said to you and things you said to them.) In this way, you “teach” about the condition. *Do not simply write a “generic” paper on the condition*.

The poster, the paper and the informational handout should include:

* The symptoms of the disease
* A family history (pedigree) that represents a typical case of this type
* Diagnosis and tests
* Modes of transmission (how the gene is carried in the sperm and egg, how it is passed on to future generations)
* Treatment and prognosis
* Chances of offspring having the disease

*The genetic disorder may be one of the following. Two people in each class must do the same disorder. Each group must be represented.* ***We must remember that these disorders may have touched the lives of members of this class. For all aspects of this project, extreme sensitivity is needed.***

***C group******AR group***

*Chronic Myeloid Anemia Thalessemia (alpha or beta)*

*Cri-du-chat Wilson’s syndrome*

*Prader Willi syndrome Galactosemia*

*Angelman syndrome Tay-Sach’s disease*

*William’s syndrome Glucose Galactose Malabsorption*

*DiGeorge syndrome Ellis-van Creveld syndrome*

*Burkitt’s lymphoma*

***AD group******SL group***

*Huntington's disease SCID (severe combined immunodeficiency)*

*Marfan Syndrome Duchenne's Muscular Dystrophy*

*Best’s syndrome Fragile X syndrome*

*Fibrodysplasia Ossificans Progressiva Lesch-Nyhan syndrome*

*Achondroplasia Rett syndrome*

***O group***

*Mitochondrial myopathy*

*Cockayne syndrome*

**Due Dates:**

Topic choice:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Handout for photocopying:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Presentation and paper:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Scoring Criteria**

This assignment will count for 100 points. Your grade will be based on the *thoroughness of your research*, your *understanding of the genetics concepts* and your ability to *communicate your learning* (as reflected in your paper and poster). Your project should also reflect some *understanding of work of the genetics counselor*. A rubric will be provided. You will also be asked to do a *self assessment* in which you carefully describe and evaluate your efforts.

A good source to check out for introductory information on the disorders:

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=gnd>