

# LETHBRIDGE HIGH SCHOOL

## IGEM TEAM

### Synthetic Biology

#### IGEM?

Stands for the international genetically engineered machine competition. We work in the field of “synthetic biology”. There are many institutions across the world that work on “projects”, after a period of time, the projects are gathered and judged. This was originally a undergraduate program, but now there are opportunities for high school students to get involved.

#### What is synthetic biology?

Synthetic biology is the field of science that aims to alter the genetic makeup of various organisms in order to better suit the needs of human beings.

The field has been undergoing “exponential” growth for a while. It has many applications in fields such as technology and the health sciences, which is partially why it is expanding at such a high rate.

#### Our project

At the beginning of our project we set out to design a bacterium to detect type one diabetes and combat it.

Type one diabetes is the disorder in which the body does not produce enough insulin to balance high blood sugar levels. We will attempt to “fix” this by modifying the genetic makeup of *Escherichia coli* to, first, detect high glucose levels and, subsequently, stimulate the release of insulin.



#### Get informed! Get involved!

For more information on our project, please visit <http://tinyurl.com/8a6k6bp>.

We would like your input! Please fill out a brief survey at <http://tinyurl.com/6vzendd>.