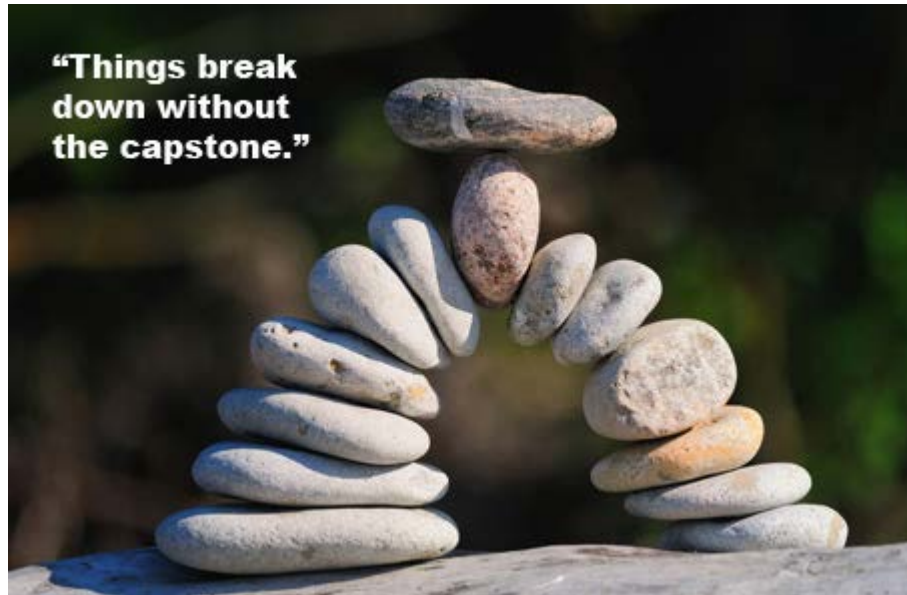


## Capstone design

Capstone Design is a culminating course offered to undergraduate students in several disciplines.

Students work in teams to design, build, and test prototypes with real world applications.

<http://capstone.gatech.edu/>



# What is biotechnology?

전통 생물학에 공학적인 개념과 기술을 적용하여 동식물을 포함한 모든 생명체의 생명현상을 밝히고, 그 정보와 기능 및 물질을 인류에게 유용하게 활용하기 위한 연구 및 산업분야이다. <http://isaaa-korea.or.kr/gmo/gmolistC1.do>

**Heal the World/Fuel the World/Feed the World** <https://www.bio.org/what-biotechnology>

Source: Healing, Fueling, Feeding: How Biotechnology is Enriching Your Life



## **Heal the World**

Biotech is helping to heal the world by harnessing nature's own toolbox and using our own genetic makeup to heal and guide lines of research by:

Reducing rates of infectious disease;

Saving millions of children's lives;

Changing the odds of serious, life-threatening conditions affecting millions around the world;

Tailoring treatments to individuals to minimize health risks and side effects;

Creating more precise tools for disease detection; and

Combating serious illnesses and everyday threats confronting the developing world.

## **Fuel the World**

Biotech uses biological processes such as fermentation and harnesses biocatalysts such as enzymes, yeast, and other microbes to become microscopic manufacturing plants. Biotech is helping to fuel the world by:

Streamlining the steps in chemical manufacturing processes by 80% or more;

Lowering the temperature for cleaning clothes and potentially saving \$4.1 billion annually;

Improving manufacturing process efficiency to save 50% or more on operating costs;

Reducing use of and reliance on petrochemicals;

Using biofuels to cut greenhouse gas emissions by 52% or more;

Decreasing water usage and waste generation; and

Tapping into the full potential of traditional biomass waste products.

## **Feed the World**

Biotech improves crop insect resistance, enhances crop herbicide tolerance and facilitates the use of more environmentally sustainable farming practices. Biotech is helping to feed the world by:

Generating higher crop yields with fewer inputs;

Lowering volumes of agricultural chemicals required by crops-limiting the run-off of these products into the environment;

Using biotech crops that need fewer applications of pesticides and that allow farmers to reduce tilling farmland;

Developing crops with enhanced nutrition profiles that solve vitamin and nutrient deficiencies;

Producing foods free of allergens and toxins such as mycotoxin; and

Improving food and crop oil content to help improve cardiovascular health.

What to do?

[https://prezi.com/5dw-sqivqu9\\_/presentation/](https://prezi.com/5dw-sqivqu9_/presentation/)

축적의 시간 1,2편 감상