

BIORESOURCE ENGINEERING

www.mcgill.ca/bioeng



Bioresource Engineering

Bioresource Engineering is the application of biology and technology to develop sustainable solutions. Bioresource engineers improve the health and diversity of the biosphere, provide the world's population with food and renewable resources, and are helping to shift the global economy to a biological platform.

The world's population has passed 7 billion people and is still rising, along with standards of living and increasing environmental pressures. The result is a huge demand for food, renewable fuels, natural fibers, and biochemical products. Bioresource engineers meet these challenges by designing sustainable systems to efficiently and responsibly manage resources. They push the envelope of applied biology and cutting-edge technology to develop solutions to the world's needs. Bioresource engineers, with their understanding of biological production, processing, and environment, are laying the foundation for the future.

Bioresource Engineering at McGill's Macdonald Campus

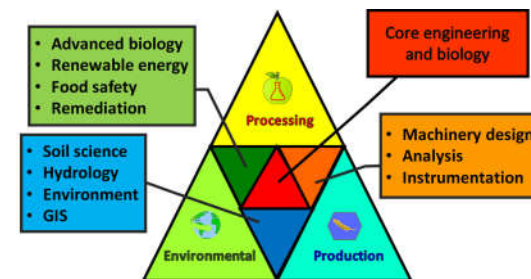
The Department of Bioresource Engineering at McGill University is one of the premier teaching and research institutions in biological engineering in Canada. The unifying theme of the program is the application of engineering principles to biological systems.

Undergraduate Programs in Bioresource Engineering

The Bioresource Engineering Major includes three streams of study. A student may emphasize a particular stream by choosing appropriate complementary courses. For details on each stream, please visit www.mcgill.ca/bioeng.

Bio-Production Engineering: Students use science and technology to create systems and machines for the production of crops, livestock, and biomass. Students learn about machine design, robotics, artificial intelligence,

geomatics and GIS, remote sensing, buildings and structures, complex system simulation, and much more.



Bio-Process Engineering: Students apply engineering to transform agricultural commodities and biomass into products such as food, fiber, fuel, and biochemicals. Topics of study include biomaterials, storage, transportation, food preservation, fermentation, industrial enzymatic reactions, and product separation technologies.

Bio-Environmental Engineering: Students learn how to be responsible stewards of the environment and natural resources. This stream includes the study of soil and water quality management, organic waste treatment, bioremediation, urban and rural ecology, life cycle assessment, sustainability engineering, biodiversity preservation, and climate change adaptation.

Graduate Programs

The Department of Bioresource Engineering offers graduate programs leading to MSc, MSc (Applied) and PhD degrees in Bioresource Engineering. Options are available in detail on the website.

Career Paths

Bioresource Engineers work in all sectors: Industry and Consulting; Government; Non-Government Organizations (NGOs); Education