



UM | Faculty of Agricultural
and Food Sciences

AGRIBUSINESS

the study of the economics of the agri-food industry, including
futures markets, risk management, environmental economics,
technology and human resources



ABOUT THIS PROGRAM

This program covers everything relating to the business of the agricultural and food industry.

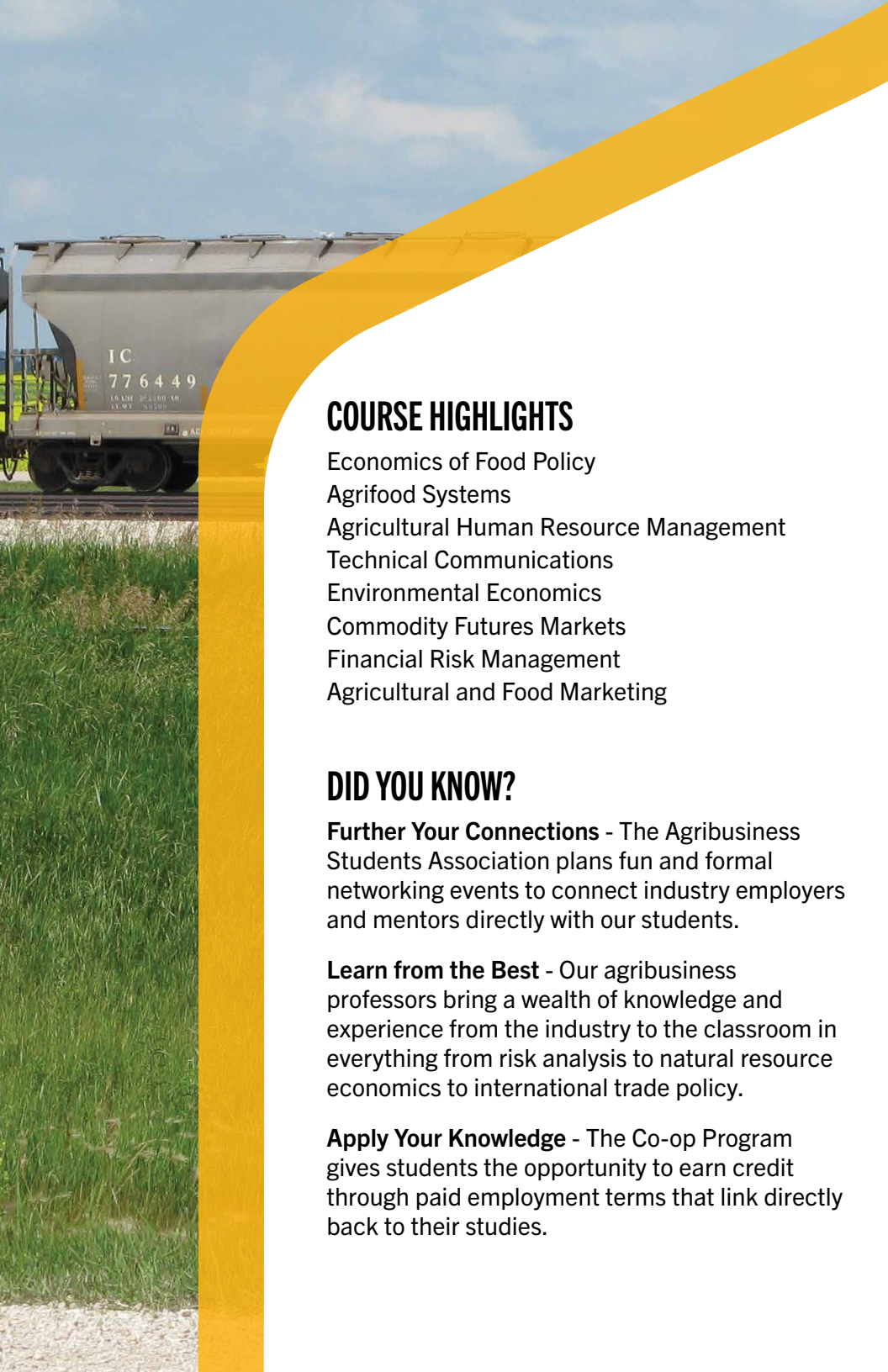
From international trade to policy development to resource management, explore a range of courses that discuss modern-day principles and issues in the world of agriculture and food.

Choose from top-level business courses offered exclusively at the University of Manitoba. Complete a complementary program that fits your passion, whether it's a Minor in Agronomy, Crop Protection or Animal Systems.

WHERE IT CAN TAKE YOU

International Business Analyzing
Commercial Management
Sales and Marketing
Commercial Specialist
Trade and Markets
Agricultural Product Development
Agricultural Policy
Human Resources
Accounting and Financing





COURSE HIGHLIGHTS

Economics of Food Policy

Agrifood Systems

Agricultural Human Resource Management

Technical Communications

Environmental Economics

Commodity Futures Markets

Financial Risk Management

Agricultural and Food Marketing

DID YOU KNOW?

Further Your Connections - The Agribusiness Students Association plans fun and formal networking events to connect industry employers and mentors directly with our students.

Learn from the Best - Our agribusiness professors bring a wealth of knowledge and experience from the industry to the classroom in everything from risk analysis to natural resource economics to international trade policy.

Apply Your Knowledge - The Co-op Program gives students the opportunity to earn credit through paid employment terms that link directly back to their studies.

CONNECT WITH US TO LEARN MORE



Want a Campus Tour?

aginfo@umanitoba.ca

Program Questions?

agfood.ambassador@umanitoba.ca

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AGROECOLOGY

the study of managed ecosystems and the application of ecological practices to achieve economically and environmentally sustainable agriculture production





ABOUT THE PROGRAM

Students will learn how agricultural and natural ecosystems function by looking at the relationships between humans, plants, and animals, as well as the environment in which they live. With a growing population and a changing climate, finding sustainable ways to maintain and increase agricultural yields is imperative.

This program can set students up for a successful career as an Agrologist, which is a regulated profession in Canada. Agrologists provide decision-makers with advice to help feed the world, boost the economy, and protect the environment. Students graduating from the Agroecology program meet education requirements for registration and licensure with Agrologists Manitoba leading to the Professional Agrologist (P.Ag.) designation.

WHERE IT CAN TAKE YOU

- Professional Agrologist
- Integrated Crop Agronomy
- Field Biology
- Water Conservation Research
- Resource Management
- Conversation Land Stewardship
- Sustainable Development
- Integrate Watershed Management Planning



COURSE HIGHLIGHTS

Principles of Ecology
Introduction to Agrifood Systems
Biological Diversity and Interactions
Introduction to Agrometeorology
Community Ecology
Environmental Economics
Soils and Landscapes in our Environment
Organic Crop Production on the Prairies
Pesticides: Environment, Economics and Ethics

DID YOU KNOW?

Get Out in the Field - Our professors take their students on field trips to see integrated crop and animal systems within agriculture that consider the interconnection of systems.

Become a Professional - The Faculty works closely with Manitoba Institute of Agrologists to immerse our students in the industry. Agrologists who provide advisory services in agriculture are recognized under a national professional model.

Further Your Connections - Our students connect in class with employers like Ducks Unlimited, National Conservancy of Canada and governmental sustainable development offices.

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AGRONOMY

the study of crop production, soil management and water resources



ABOUT THE PROGRAM

This program focuses on the sustainable management of land and crops for producing food, feed, fiber, fuel and an increasingly diverse range of bioproducts.

From soil and crops to air and water, agronomists focus on management practices that produce crops, while conserving resources and protecting the environment.

Our connections in the agricultural industry run deep in both the conventional and organic crop production sectors, resulting in many of our students gaining jobs in crop production, sales, research or land or water resource management.

WHERE IT CAN TAKE YOU

Independent Crop Consultant
Crop Inputs Specialist
Crop Production Advisor
Sales Agronomist
Research Technician
Regional Crop Input Sales Manager
Crop Development Agronomist
Seed Production Manager





COURSE HIGHLIGHTS

Cropping Systems
Soils and Landscapes in our Environment
Soil Fertility and Nutrient Management
Organic Production
Precision Agriculture
Urban Agriculture
Crop Protection Entomology
Geographic Information Systems
Plant Disease Control
Weed Science

DID YOU KNOW?

Get Out in the Field - Our professors take their students to farms to gain insight into a wide range of crop systems and to learn how to develop nutrient management advising skills.

Ian N. Morrison Research Farm - Located west of Carman, Manitoba, this 165-hectare site features small plot field research, a wet lab, a seed lab and classrooms. Our students assist in hosting industry events and field days here.

Glenlea Research Station - This site is home to the longest established organic cropping field research and demonstration trial in Canada.

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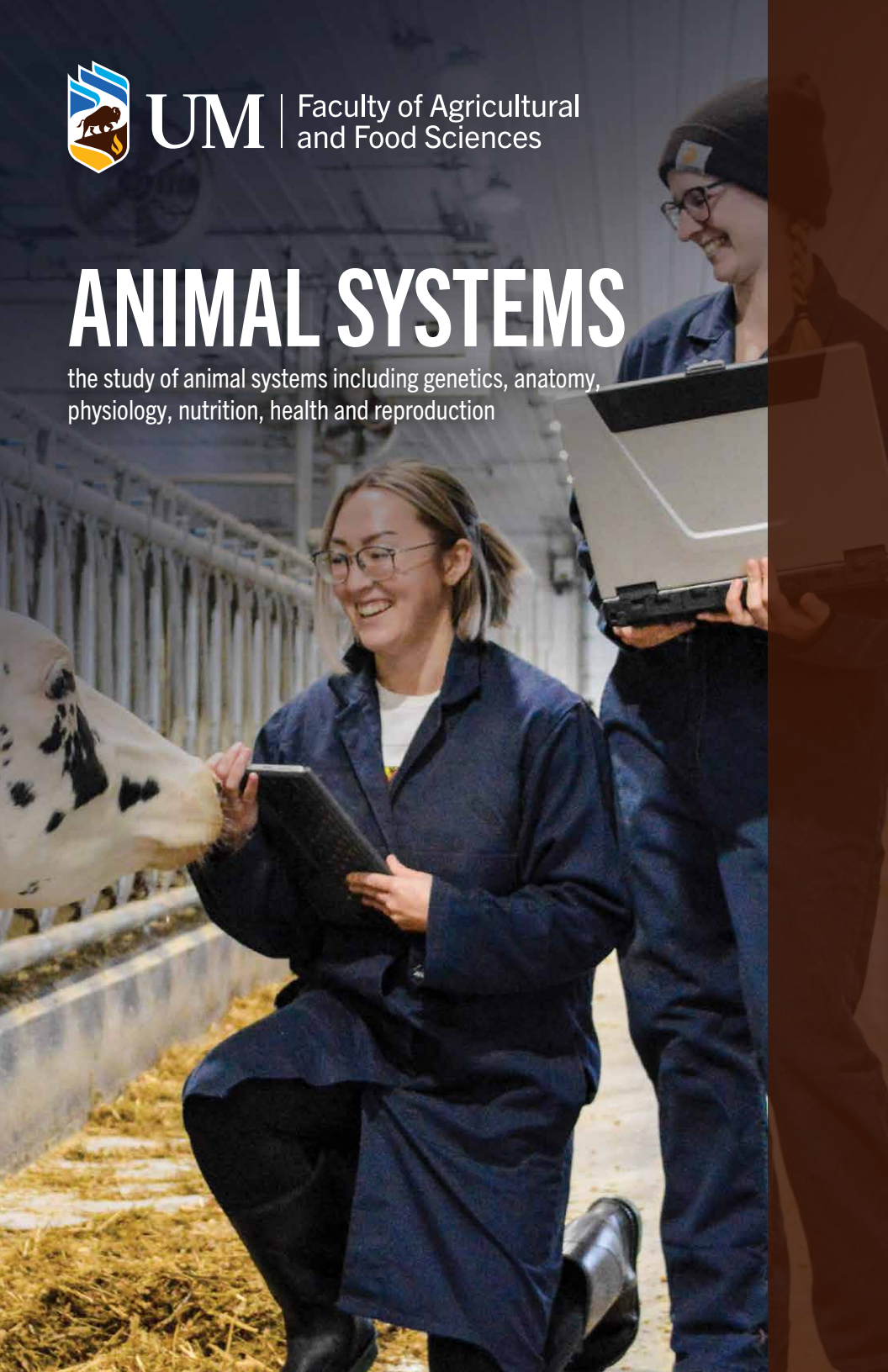
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ANIMAL SYSTEMS

the study of animal systems including genetics, anatomy,
physiology, nutrition, health and reproduction



ABOUT THE PROGRAM

This program covers both domestic species, such as beef and dairy cattle, swine, sheep and poultry, non-traditional species including bison and elk, as well as companion animals.

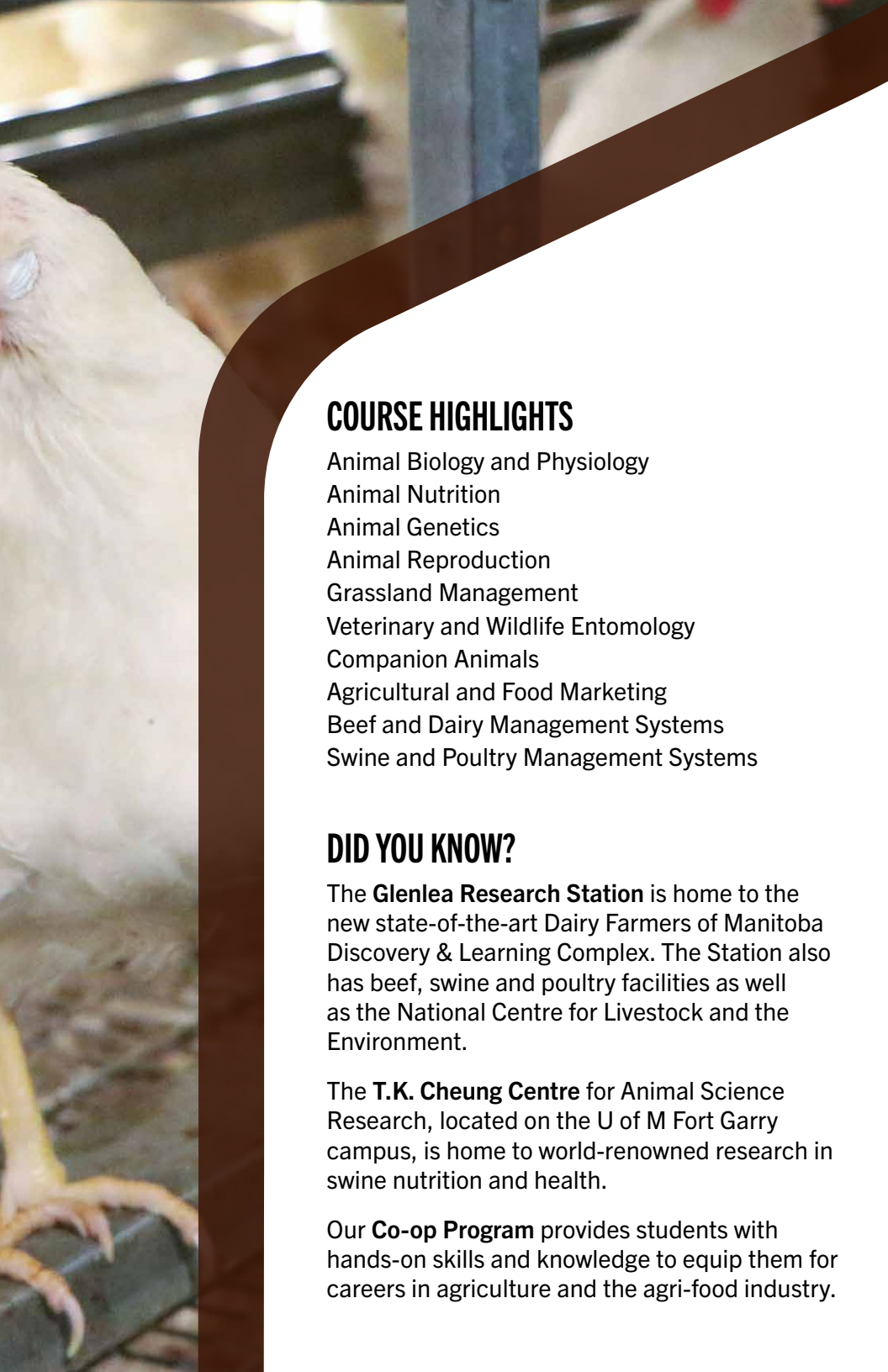
Students can pursue pre-veterinary studies and work towards earning a full undergraduate degree at the same time.

Areas of study include animal nutrition, reproduction, behaviour and welfare, genetics, environmental sustainability of livestock systems and processing of animal products.

WHERE IT CAN TAKE YOU

- Animal Nutrition
- Environmental Conservation
- Agricultural Policy
- Pharmaceutical Sector
- Animal Health and Welfare
- Sales and Marketing
- Livestock Production Extension Branch
- Food Product Development
- Food Safety / Quality Control
- Livestock Commodity Groups
- Animal Genetics Research
- Animal Health Research





COURSE HIGHLIGHTS

Animal Biology and Physiology
Animal Nutrition
Animal Genetics
Animal Reproduction
Grassland Management
Veterinary and Wildlife Entomology
Companion Animals
Agricultural and Food Marketing
Beef and Dairy Management Systems
Swine and Poultry Management Systems

DID YOU KNOW?

The **Glenlea Research Station** is home to the new state-of-the-art Dairy Farmers of Manitoba Discovery & Learning Complex. The Station also has beef, swine and poultry facilities as well as the National Centre for Livestock and the Environment.

The **T.K. Cheung Centre** for Animal Science Research, located on the U of M Fort Garry campus, is home to world-renowned research in swine nutrition and health.

Our **Co-op Program** provides students with hands-on skills and knowledge to equip them for careers in agriculture and the agri-food industry.

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DIPLOMA IN AGRICULTURE

practical, hands-on education in business management, crop
management, livestock management or general agriculture





CHOOSE YOUR FOCUS

Business Management - finance and credit, merchandising, sales, agricultural policy, financial risk

Crop Management - weed control, plant disease, soil conservation, soil fertility, forage and pasture management, specialty crops

Livestock Management - livestock operation management, animal health and welfare, beef, dairy, poultry, equine and swine herds

General Agriculture - various agri-business courses in business-, crop- and livestock management

WHERE IT CAN TAKE YOU

Farm Ownership / Management

Value-Added Product Development

Sales & Marketing

Agricultural Loans & Finance

Grain Marketing & Trading

Customer Relations Management

Crop Production Advising

Government Extension Services



COURSE HIGHLIGHTS

Precision Agriculture – Technological Tools
Financial Risk Management
Advanced Communication and Leadership
Sustainable Agri-Food Systems
Human Resource Management
Managing Agricultural Safety
Managing Farm Business Transition
Forage & Pasture Management
New Opportunities in Adding On-Farm Value

DID YOU KNOW?

Reflects Farming Seasons - To accommodate students with farming obligations, our Diploma school year starts in mid-September and ends in early April.

Business Plan Development - Every student develops a major management and financial analysis plan for a farm-based business which they present to an industry panel.

Building Industry Leaders - Our Diploma alumni make an impact in the agriculture community, working in all areas, from politics to publicity to finance to farm advocacy.

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FOOD SCIENCE

explores how raw commodities are processed into healthy, safe
and appealing foods, with a focus on either business or science





CHOOSE YOUR FOCUS

This program covers everything in the world of food science, from food safety to microbiology to food engineering to sensory science.

Learn how raw agricultural materials can be processed and formulated into safe and attractive consumer-ready food products.

Science Option

Learn the science and technology of food processing, packaging, and food preservation.

Business Option

Explore the business and economics of food production, including marketing and finance.

WHERE IT CAN TAKE YOU

Quality Assurance

Data Analysis

Food Processing

Commodity Trading

Laboratory Technician

Food Product Development

Grain Purchasing

Food Safety

Food Facility Operations

Food Business Ownership



COURSE HIGHLIGHTS

Food Product Development
Food Microbiology
Cheese and Fermented Dairy Products
Frozen Dairy Products
Food Engineering
Introduction to Agrifood Systems
Food Safety and Regulations
Human Resource Management
Quality Control in Foods
Functional Foods and Nutraceuticals

DID YOU KNOW?

The **Dairy Pilot Plant** features production rooms for making a variety of dairy products, like cheese and ice cream. Students take classes here on frozen and fermented dairy products.

The **George Weston Ltd. Sensory Food Research Lab** explores issues in sensory analysis, consumer acceptance and flavor science.

The **Richardson Centre for Functional Foods and Nutraceuticals** is an innovative research hub focused on developing nutritious products and functional foods. Many of our students find jobs and co-op placements here.

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HUMAN NUTRITIONAL SCIENCES

promoting human health through food, nutrition and
healthy eating for individuals and communities





CHOOSE YOUR FOCUS

Nutrition Option

Learn about the role of nutrition and food literacy in health promotion in all ages.

Dietetics Preparation pathway available.

Foods Option

Learn how to develop food products that support health and increase the competitiveness of the food production, processing and marketing industries.

Food Industry Option

Explore the ways health and nutrition impact the food industry with a focus on quality assurance, food product development or agri-food sector.

Second Degree option available.

WHERE IT CAN TAKE YOU

Food Product Development Consultant

Food Service Director

Community Nutritionist

Sports Nutritionist

Registered Dietitian (following one-year dietetic internship)

Human Ecology Teacher (with completion of an Education degree)



COURSE HIGHLIGHTS

Food Preparation and Preservation
Food: Facts and Fallacies
Nutrition in Exercise and Sport
Vitamins and Minerals in Human Health
Community Nutrition
Culture and Food Patterns
Introduction to Agrifood Systems
Fundamentals of Marketing
Food Product Development
Maternal and Child Nutrition
Nutrition Assessment and Counselling

DID YOU KNOW?

The **Barbara Burns Food Innovation Laboratory** is a state-of-the art food grade lab, modern test kitchen and demonstration centre where students study food product development.

The **George Weston Ltd. Sensory Food Research Lab** explores issues in sensory analysis, consumer acceptance and flavor science.

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PLANT BIOTECHNOLOGY

an education in the sciences and advanced
biotechnologies applied to the improvement, protection
and uses of agricultural and horticultural crops



A close-up photograph of several small green seedlings with two leaves each, growing in a black plastic nursery tray. The soil is dark brown and moist. The image is partially obscured by a dark brown curved shape on the left side, which serves as a background for the text.

ABOUT THE PROGRAM

Using applied biology and chemistry, plant biotechnology scientists develop food crops from the molecular level to the plant in the field, and design new technologies that protect crops from insects and disease from planting to harvesting.

Gain a deeper understanding of genetics, pathology, the physiology of plant growth, and the development of crop plants for food, feed and industrial uses.

WHERE IT CAN TAKE YOU

- Crop Extension Coordination
- Plant Breeding Management
- Seed Plant Operations
- Quality Assurance
- Genetic Engineering
- Plant Laboratory Research
- Bioinformatics Data Processing
- Cultivar Development
- Plant Tissue Culture Research



COURSE HIGHLIGHTS

Plant Genetics

Plant Genomics

Fundamentals of Horticulture

Principles of Ecology

Physiology of Crop Plants

Biological Diversity and Interactions

Biology of the Flowering Plants

Fundamentals of Plant Pathology

DID YOU KNOW?

Research Jobs Close to Home - The Canadian Grain Commission's Grain Research Laboratory is located right down the street from our classrooms in the U of M Smartpark. Many of our students find employment and research opportunities there.

Point Field Research Laboratory - Located on the U of M campus, "The Point" houses crop handling, drying and seed storage areas and is the home of our plant breeding, horticulture, physiology and plant pathology research.

Apply Your Knowledge - Our Co-op Program gives students the opportunity to earn credit through paid employment terms that link directly back to their studies.

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